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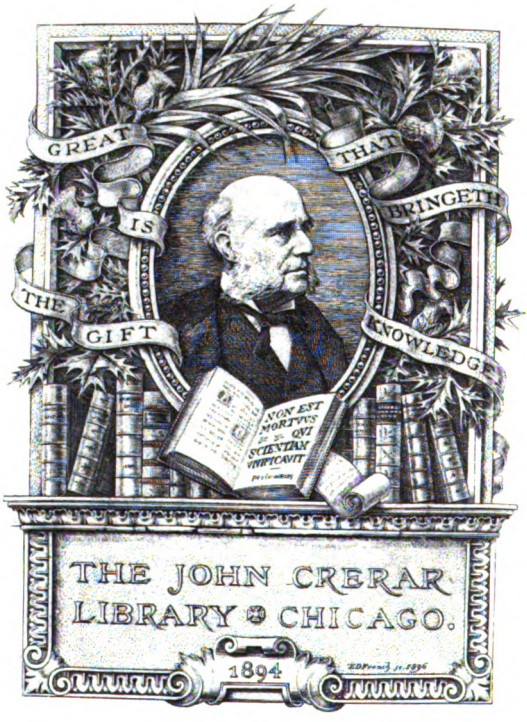
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AIR MINISTRY.

REPORT

ON THE

HEALTH OF THE ROYAL AIR FORCE

FOR THE YEAR

1930

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REPORT

ON THE

HEALTH OF THE ROYAL AIR FORCE

FOR THE YEAR

1930

The following Report on the Health of the Royal Air Force for the Year 1930 is issued for the information and guidance of all concerned.

By Command of the Air Council,

C. L. Bullock

AIR MINISTRY,

Published September, 1931.

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force during 1930.

The incidence of sickness shows a marked decrease compared with that of 1929—the decrease amounting to 53 per 1,000 of strength for cases admitted to hospitals or station sick quarters and 115 per 1,000 for all cases of medical non-effectiveness. The final invaliding rate is considerably lower than in previous years, and the rate of invaliding to the United Kingdom from abroad—12·8 per 1,000—is the lowest yet recorded. The incidence of deaths rose from 3·4 per 1,000 in 1929 to 4·2 per 1,000 in 1930; the latter figure also represents the average incidence during the last ten years.

The incidence of venereal disease has risen from 15·0 per 1,000 in 1929 to 16·1 per 1,000 in 1930, but must still be considered as very satisfactory.

I have the honour to be, Sir,

Your obedient Servant,

J. McINTYRE,

Director of Medical Services,

Royal Air Force.

July, 1931.

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TABLE I.—SICKNESS AT HOME AND ABROAD—ANALYSED BY GEOGRAPHICAL AREAS.

Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.						
		Less than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	Fresh cases of sickness.		Deaths.	Invalided out of service.	Invalided to United Kingdom.	No. sick daily.	
												48-hour cases included.	48-hour cases excluded.				48-hour cases included.	48-hour cases excluded.
United Kingdom—																		
1930ø	22,701	3,723	7,951	11,674	84	160	—	14·3	20·2	7·3	7·1	514·3	350·2	3·7	7·0	—	20·0	19·5
Average 1926–29 (*a*) ..	*22,373*	*5,039*	*8,280*	*13,319*	*76*	*186*	—	*12·9*	*19·8*	*7·7*	*7·3*	*595·3*	*370·1*	*3·4*	*8·3*	—	*21·1*	*20·0*
Average 1921–25	*21,929*	*10,067*	*8,338*	*18,405*	*70*	*282**	—	*8·8*	*17·8*	*7·4*	*6·8*	*839·3*	*380·2*	*3·2*	*12·9**	—	*20·3*	*18·6*
Fleet Air Arm: home and abroad—																		
1930..	848	131	316	447	3	5	13	13·8	18·9	7·3	7·0	527·1	372·6	3·5	5·9	36·3	20·0	19·2
Average 1927–29	*783*	*433*	*292*	*725*	*7*	*2*	*5*	*7·2*	*15·7*	*6·6*	*5·9*	*925·9*	*372·9*	*8·9*	*2·6*	*11·4*	*18·1*	*16·2*
Mediterranean Littoral—																		
1930ø	4,034	1,859	1,948	3,807	20	10	49	8·4	15·0	8·0	7·3	943·7	482·9	5·0	2·5	12·1	21·9	20·0
Average 1926–29 (*a*) ..	*3,420*	*1,767*	*1,928*	*3,695*	*19*	*14*	*55*	*9·7*	*17·3*	*10·5*	*9·8*	*1080·4*	*563·7*	*5·6*	*4·1*	*16·1*	*28·8*	*26·8*
Average 1921–25	*3,662*	*2,402*	*2,095*	*4,497*	*19*	*22*	*59*	*9·6*	*18·9*	*11·8*	*10·8*	*1228·0*	*572·1*	*5·2*	*6·0*	*16·1*	*32·3*	*29·6*
Iraq—																		
1930..	2,156	372	1,284	1,656	12	7	49	15·9	20·1	12·2	12·0	768·1	595·5	5·6	3·2	22·7	33·4	32·9
Average 1926–29	*2,740*	*1,380*	*2,206*	*3,586*	*17*	*10*	*74*	*12·2*	*18·8*	*15·9*	*15·1*	*1308·8*	*805·1*	*6·2*	*3·6*	*27·0*	*43·6*	*41·4*
Average 1921–25	*2,889*	*3,038*	*2,713*	*5,751*	*26*	*20*	*87*	*9·5*	*18·7*	*19·0*	*17·6*	*1990·7*	*939·1*	*9·0*	*6·9*	*30·1*	*52·1*	*48·2*
India—																		
1930..	2,085	711	1,406	2,117	14	4	9	9·8	14·0	10·0	9·4	1015·8	674·3	6·7	1·9	4·3	27·4	25·8
Average 1926–29	*1,989*	*1,178*	*1,389*	*2,567*	*12*	*8*	*30*	*8·5*	*14·6*	*11·0*	*10·2*	*1290·6*	*698·3*	*6·0*	*4·0*	*15·1*	*30·1*	*27·9*
Average 1921–25	*1,854*	*2,512*	*1,351*	*3,863*	*16*	*13*	*52*	*6·9*	*17·0*	*14·4*	*12·4*	*2083·6*	*728·7*	*8·6*	*7·0*	*28·0*	*39·5*	*34·0*
Total, abroad																		
ø‡1930	8,451	3,029	4,752	7,781	48	22	108	10·6	16·3	9·7	9·2	920·8	562·4	5·7	2·6	12·8	26·6	25·2
†Average 1926–29 (*a*) ..	*8,224*	*4,350*	*5,584*	*9,934*	*49*	*31*	*162*	*10·4*	*17·3*	*12·5*	*11·7*	*1207·9*	*679·0*	*6·0*	*3·8*	*19·7*	*34·2*	*32·1*	*32·1*
Average 1921–25	*8,405*	*7,951*	*6,159*	*14,110*	*61*	*55*	*198*	*8·8*	*18·4*	*14·8*	*13·5*	*1678·8*	*732·7*	*7·3*	*6·5*	*23·6*	*40·5*	*37·0*
Total force—																		
1930..	32,000	6,883	13,019	19,902	135	187	121	12·8	18·8	8·0	7·6	622·0	406·9	4·2	5·8	13·7	21·9	20·8
Average 1926–29	*31,184*	*9,714*	*14,083*	*23,797*	*130*	*218*	*166*	*11·7*	*18·7*	*8·9*	*8·5*	*763·1*	*451·6*	*4·2*	*7·0*	*19·4*	*24·4*	*23·3*
Average 1921–25	*30,334*	*18,018*	*14,498*	*32,516*	*131*	*336**	*198*	*8·8*	*18·0*	*9·4*	*8·6*	*1071·9*	*477·9*	*4·3*	*11·1**	*23·6*	*25·8*	*23·6*

* Excludes 711 invalids through Discharge Centre Medical Board during 1921.
ø Excludes Fleet Air Arm. (*a*) Excludes Fleet Air Arm for 1927, 1928 and 1929.
‡ Includes sickness at Far East stations: 201 cases, 2 deaths, 1 finally invalided, and 1 invalided to the United Kingdom. † Includes sickness at Far East stations in 1927, 1928 and 1929.

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD.

General.

1. Table I, page viii, analyses the total sickness in the force at home and abroad by commands, showing the figures for 1930 and for the two earlier periods of 1926–29 and 1921–25. There has been no change in the commands since the last report, and for 1930 the average strengths of the commands shown under the heading of Mediterranean Littoral were Malta 395, Egypt, Sudan and Transjordan 2,980, Aden 406, and drafts *en route* to and from the United Kingdom 253.

2. The incidence of all sickness, i.e., admissions to hospital or sick quarters and cases of less than 48 hours duration, fell from 737·2 per 1,000 of strength in 1929 to 622·0 in 1930, and the latter figure compares very favourably with the averages of the two earlier periods, 763·1 and 1071·9, respectively. Taking admissions only, the incidence in 1930 was 406·9 per 1,000, compared with 459·7 in 1929 and previous averages of 451·6 and 477·9. The fall in incidence was mainly due to the reduced incidence of influenza at home, 10·6 per 1,000 in 1930 compared with 57·4 in 1929, this decreased incidence representing an actual decrease of 1,056 cases on approximately equal strengths. Both at home and abroad the rate of admissions to hospital or sick quarters was lower in 1930 than that of 1929 and each of the two earlier periods.

3. In the force as a whole the average number of days' sickness per head fell from 8·8 in 1929 and previous averages of 8·9 and 9·4 to 8·0 in 1930, but the average duration per case rose to 12·8 days from 11·9 in 1929 and averages of 11·7 and 8·8 days respectively during the two earlier periods. The number of sick daily at home, excluding cases of less than 48 hours' duration, was reduced to 19·5 per 1,000 from 20·8 in 1929, and abroad from 29·9 per 1,000 in 1929 to 25·2 in 1930. This incidence abroad shows a steady reduction through the periods analysed, while that at home is lower than in 1929 and than the average of the previous four years, but higher than the average of the years 1921–25. Including cases of less than 48 hours' duration, the constantly sick figure abroad shows a steady appreciable reduction, while that at home is lower than in 1929 and the average of the years 1926–29 by 1·6 and 1·1 respectively, but only very slightly lower than the average of the period 1921–25.

4. Table II, page 11, analyses all sickness for 1930 by certain individual diseases, groups of disease, and injuries to show the actual numbers of cases, deaths and invalids in each, and to compare the percentages of the total cases, the deaths and invalids in 1930, and in each of the two earlier periods. In each of the three periods, other diseases due to infection showed the highest

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percentage of all sickness, with diseases of the digestive system second in each period. Excluding tuberculosis, in each of the three periods diseases of the digestive system were responsible for the greatest percentage of deaths with pneumonia second, while in each period the greatest percentage of invalidings was due to diseases of the nervous system with tuberculosis occupying second place. Injury continues to show a tendency to increase in its percentage of total sickness—18·4 per cent. in 1930, 16·7 per cent. in 1929, 18·4 in 1928, 15·3 in 1927, 17·1 in 1926, and 15·2 in 1925. In 1930, 78·6 per cent. of all deaths were the result of injury, compared with 68·6 in 1929, and injuries were responsible for 9·1 per cent. of all invalidings in 1930 compared with 5·9 in 1929. In considering the relative distribution of sickness, it must be borne in mind that an appreciable variation in the number of cases in any particular group automatically varies the percentages of the total contributed by the other groups unless there is a uniform decrease or increase in the number of cases in each group. The actual incidence of injury per 1,000 of strength, 74·8, was slightly lower than the average 76·0 for 1926–29.

5. Table III, page 12, gives an analysis of the incidence and average duration of each case in days of all sickness by groups of disease and injuries for the three periods 1930, 1926–29 and 1921–25 divided into the force at home, the force abroad and total force. In the incidence of groups of disease there is no very marked variation except for diseases caused by infection which at home fell to 139 per 1,000 from previous averages of 168·9 and 179·8 and was due mainly to the reduced incidence of influenza, and abroad fell to 317·3 per 1,000 from 401·7 and 472·8. The average durations for cases of disease vary little—18·1, 18·1 and 17·8 days for the three periods analysed, while a corresponding approximation is noticeable in the average durations of cases of injury—21·5, 21·5 and 19·4 days respectively. Looking at the average durations of certain groups of disease, some very marked variations are found, but, bearing in mind that a few cases of unusually long duration give an unduly high average, the number of cases in the group must be ascertained from table XII before essaying any comparison.

Fleet Air Arm.

6. The incidence of sickness and of deaths both fell from 768·8 per 1,000 and 6·1 per 1,000 in 1929 to 527·1 per 1,000 and 3·5 per 1,000 respectively in 1930, but the final invaliding rate rose from 1·2 to 5·9 per 1,000 and the invaliding from abroad rate from 13·6 to 36·3 per 1,000. With the exception of 1928, the incidence of invalids from abroad has increased each year since 1927; there is no predominance of any one disease or group of diseases in the list of causes for invaliding.

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The total strength of the Fleet Air Arm is, however, small and fluctuations in the incidence rates are to be expected. During the four years 1927–1930, the invaliding from abroad rate has averaged 17·6 per 1,000 as compared with 18·7 for the total force abroad.

Invalidings.

7. *Invalids from commands abroad to United Kingdom.*—There was a marked decrease in the invaliding rate from abroad in 1930—13·7 per 1,000 compared with 18·4 in 1929 and averages over the two earlier periods of 19·4 and 23·6 respectively. The groups of diseases responsible for the majority of these transfers to the United Kingdom were :—Nervous system and brain 22, digestive system (stomach and intestines) 18, injury 18, respiratory system 18, out of a total of 121.

8. *Final invalids.*—One hundred and eighty-seven cases were finally invalided from the service in 1930 compared with 238 in 1929 and averages of 218 and 336 for the two earlier periods of 1926–29 and 1921–25 respectively. The principal causes in 1930 were :—

Tuberculosis—		
Pulmonary	24	27
All other forms	3	
Psychoneurosis	..	25
Diseases of joints	9	17
Deformities of limbs	8	
Defective vision	..	15
Fractures	..	13
Diseases of heart—		
Valvular	5	11
Myocardial	5	
Disordered action	1	

Compared with 1929, there were decreases in the numbers invalided for :—

Tuberculosis—	
Pulmonary	28 to 24
All other forms	6 to 3
Diseases of heart—valvular	24 to 5
Disease of joints	10 to 9

and increases in :—

Defective vision	10 to 15
Fractures	10 to 13

but no change in :—

Psychoneurosis	25
Deformities of limbs	8

The final invaliding rate dropped from 7·6 in 1929 to 5·8 in 1930 and is the lowest yet recorded. Table II, page 11, shows these

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invalids by groups of disease and injury, and compares each group's percentage of the total invalidings with the averages of the two earlier periods.

Deaths.

9. There were 135 deaths from all causes in the service during 1930, an incidence of 4·2 per 1,000 compared with 4·2 and 4·3 per 1,000 respectively for the two earlier periods. Of this total, 106 occurred as the result of injury compared with 72 in 1929, and 29 from disease compared with 33 in 1929. Table II, page 11, analyses all deaths by groups of disease and injury, showing against each the percentage of the total deaths. The causes of the 29 deaths from disease were as follows :—

Pneumonia	4
Tuberculosis—	
Pulmonary	2
Peritonitis	1
Enteric group	2
Carcinoma	2
Nephritis	2
Cerebral hæmorrhage	2
Appendicitis	2
Septicæmia	1
Meningitis	1
Cerebro-spinal fever	1
Acute pericarditis	1
D.A.H.	1
Syncope	1
Gastric ulcer	1
Intestinal obstruction	1
Acute peritonitis	1
Acute yellow atrophy	1
Neuroma	1
Alcoholic poisoning	1

Types of Unit.

10. Table VIII, page 18, gives an analysis of all sickness by disease and injury and type of unit. Flying units show the lowest disease and constantly sick figures, and the highest death incidence, as is to be expected in units where physical fitness is essential and where the death risks are greatest. The incidence rates of both disease and injury in the remaining two groups of units are very similar, while the death and invaliding rates are slightly higher in the miscellaneous group, which includes personnel depôts, than in the group of stores depôts, ground schools and armoured car units. This may be to some extent due to the non-effective sick who are borne on the strength of personnel depôts.

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Trade Groups.

11. Table IX, page 19, shows the incidence by trade groups of all disabilities subdivided into injury and disease, and further splits up disease into the five groups of diseases which were responsible for the bulk of medical non-effectiveness. Aircraft apprentices, as in recent years, show the highest disability incidence, but the actual incidence has decreased from 554·8 per 1,000 in 1929 to 499·3 in 1930; the fall is almost entirely due to a reduced incidence of upper air passage infections and of influenza. Clerks, as might be expected from their occupation, show the lowest injury incidence, but on the other hand this group does not show the highest disease incidence and has as a rule occupied a position halfway down the list of incidences. Fitters appear very constantly at the head of the incidences for injury, either in the first or second place, and for the last four years in succession drivers have shown a higher incidence of venereal disease than any other trade.

Age Groups.

12. Table V, page 14, gives an analysis of all sickness by age groups, at home and abroad, during 1930, and subdivides total sickness into disease and injury. As in previous years, this table shows the tendency for both disease and injury to decrease in successive age groups and for disease to be much more prevalent abroad in all groups, among officers as well as airman, than at home, excluding the youngest group of aircraft apprentices which, as is to be expected, invariably shows a much higher figure than any other group. The youngest group serves at home only, and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of their number if divided into age groups; the incidence of disease in this group is lower than in the combined airman groups, and ranks between the two groups of airmen aged 24 and 25 and 26 and 27, while, as would be expected, the injury rate in this group is higher than in the combined airman group and is also higher than in seven out of the ten airman groups.

Nosological Tables.

13. Table XII, page 22, analyses by their cause all sickness, deaths and invalids in the force as a whole and divided into the total at home and the total abroad, figures for the Fleet Air Arm, which in table I are shown separately, being included as appropriate. Table VII, page 16, analyses by commands certain diseases marked with an asterisk in table XII, which were responsible for the main bulk of medical non-effectiveness.

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14. The principal causes of medical non-effectiveness and their constantly sick figures during the year were :—

	1930.	1929.
Injuries	140·8	140·5
Gonorrhœa	64·7	56·2
Tonsillitis	30·1	34·0
Appendicitis	21·0	19·3
Malaria	18·1	20·3
Upper air passage infections (excluding tonsillitis)	17·5	24·2
Venereal disease (excluding gonorrhœa)	16·0	14·5
Cellulitis	15·5	14·4
Diseases of the joints	11·6	15·3
Rheumatism (acute)	11·3	8·5
Impetigo contagiosa	11·0	10·4
Influenza	7·4	31·7

Injuries and gonorrhœa were again, as in 1929, the chief causes of sickness and, with the exception of the enteric group, the constantly sick figure of which fell from 15·6 in 1929 to 4·8 in 1930, the same twelve causes headed the list of causes of non-effectiveness as in 1929. The altered position of influenza from fourth to twelfth place in the list is noteworthy.

15. The order of commands in medical effectiveness during 1930 was :—The force at home and the Fleet Air Arm, 7·3 days' sickness per head ; the Mediterranean Littoral (Egypt, Palestine and Aden), 8·0 days ; India, 10·0 days ; and Iraq, 12·2 days. In 1929 the order was :—The Fleet Air Arm ; Mediterranean Littoral and the force at home (equal) ; India ; Iraq.

16. At home, influenza and to a lesser degree diseases of the upper air passages and the remainder of the respiratory system played a much less prominent part in non-effectiveness in 1930 than in 1929, while abroad the main groups—dysentery, enteric, malaria and sandfly fever—showed the following comparative figures of days sickness per head :—

	Mediterranean Littoral.	*Iraq.*	*India.*
Dysentery	0·1	0·4	0·4
Enteric group	0·1	0·3	0·4
Malaria, primary	0·2	0·5	0·5
,, other	0·1	0·3	0·7
Sandfly fever	0·2	0·6	0·5

Venereal Disease.

17. Venereal disease is analysed in table VI, page 15. The incidence of all venereal disease was slightly higher in 1930 than in 1929—16·1 per 1,000 compared with 15·0, but is considered to be a very satisfactory rate. The incidence of fresh cases of gonorrhœa was actually slightly lower in 1930 than in 1929, and

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the higher figure for the whole group was due to increases of cases of primary syphilis—3·5 to 4·7 per 1,000 abroad—of relapses in cases of gonorrhœa both at home and abroad, and of chancroid in commands abroad. The part played by venereal disease in causing non-effectiveness at home and in the separate commands abroad is shown by the following figures which represent days' sickness per head ; the figures for 1929 are added for comparison:—

	1930.	1929.
India	0·6	0·9
Home	0·8	0·6
Mediterranean Littoral	0·8	0·9
Iraq	2·3	2·7

Pulmonary Tuberculosis.

18. Twenty-five fresh cases were notified during 1930 compared with 29 in 1929, and of this number 21 were finally invalided, two died and two were remaining under treatment at the end of the year. Of the four cases which remained at the end of 1929 and were referred to in the report of that year, three were invalided in 1930 and one is still serving, being considered as a case of definite arrest.

19. Table IV, page 13, analyses the 25 cases by age and trade groups, by length of service and type of unit. A family history of pulmonary tuberculosis was found in three of the cases notified, was definitely stated not to exist in 21 cases, while in the remaining case it was doubtful. In no instance was there any evidence of infection by direct or indirect contact other than the three referred to above, and in sixteen cases only had the individual served in a tropical or sub-tropical climate (Iraq, eight ; China, three ; Malta, three ; India, one ; and Egypt, one). Of these sixteen cases, only four had suffered from diseases peculiar to such climates (malaria, three ; sandfly fever, one). Fourteen cases had records of previous illnesses which might be regarded as possible precursors of pulmonary tuberculosis, and four had been treated for " chronic cough ", two had had definite attacks of acute bronchitis, two of pleurisy, two of upper air passage catarrh, one of pneumonia, one septic infarct of lung following appendicectomy, one general debility, and one chronic bronchial catarrh following " gassing ". Three cases considered that conditions of undue exposure had contributed to the incidence of their disability—one to frequent wettings and exposure as a member of a motor boat crew, one to conditions on board aircraft carriers, and one to constantly wet feet and clothing on a bleak aerodrome during the winter months. Six gave a history of mucopurulent sputum, and five of hæmoptysis, while three had noticed a recent progressive marked loss of weight, and one complained in the first instance of " night sweats ".

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Injury.

20. Table X, page 20, analyses 2,333 cases of injury by cause and nature of injury. Excluded from this total are 49 cases of sickness due to heat exhaustion, sunstroke, heat hyperpyrexia, drowning and effects of immersion, and ten cases due to the wearing of ill-fitting boots, as not properly coming under the heading of injury for this analysis. This total of 2,333 cases in 1930 represents an incidence of 73 per 1,000 compared with 75·7 in 1929 and 77·6 in 1928. Fifty-six per cent. of all injuries were due to accidents on duty compared with 57 per cent. in each of the previous years. The commonest site of injury, as in each earlier year, was the lower limb.

21. Flying accidents were responsible for 6·3 per cent. of all injuries on or off duty compared with 6 per cent. in 1929 and 6·6 per cent. in 1928. Of the total deaths from injury, flying accidents accounted for 66 per cent. compared with 56 per cent. in 1929, 68 per cent. in 1928, 70 per cent. in 1927, and 73 per cent. in 1926.

22. *Injuries sustained in flying accidents.*—Table XI, page 21, gives an analysis of flying casualties during the last three years. During 1930 more aircraft hours were flown per accident resulting in death or injury than in any previous year. The percentage of flying casualties that resulted in death during 1930 was 47, and with one exception (a chaplain injured) all officers killed or injured in flying accidents belonged to the general duties branch. One officer was killed and three were injured when flying off duty. There were 63 casualties among airmen resulting in 29 deaths, compared with 16 deaths out of 50 casualties in 1929. Of the 29 deaths in 1930, twelve occurred among fully qualified airman pilots or airman pilots under training, and 17 were distributed over other trade groups as follows :—Riggers 9, fitters 3, metal-workers 3, W/T operators and meteorologists 2.

23. *Injuries caused by airscrews.*—Twenty-six cases were reported in 1930 compared with 27 in 1929, and of these four were struck when not swinging, or sustained such injuries as sprains while swinging, although not actually struck by the airscrew. There were no deaths and one invalid, and the casualties occurred over the following trade groups :—Riggers 13, fitters 9, and 1 each in aircrafthands, metal workers, other skilled trades and airman pilots.

24. *Injuries sustained while starting engines.*—Excluding those referred to in the preceding paragraph, there were 25 cases of injury from this cause in 1930, 36 in 1929 and 41 in each of the previous two years. There were no deaths nor invalids.

25. *Injuries the result of motor accidents.*—Four hundred and sixty-one cases of injury were reported in 1930 compared with

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431 in 1929 and 498 in 1928. There were twenty deaths and ten invalids, all off duty. Injuries from this cause are analysed in four groups as follows :—

(i) *Motor cycles—occupants.*—Three hundred and sixty-four cases, or approximately 80 per cent. of all motor accidents and 16 per cent. of all injuries, occurred to riders of motor cycles. Three hundred and fifty-two cases occurred off duty or on leave and resulted in fourteen deaths and nine invalids. In 1929, 77 per cent. of all motor accidents and 14 per cent. of all injuries were due to motor cycle accidents.

(ii) *Lorries or tenders—occupants.*—Ten cases, three off duty, six on duty, and one with incomplete details, were reported, resulting in one invalid from an accident off duty.

(iii) *Motor cars—occupants.*—There were 52 cases of injury from this cause, seven on duty, in 1930, compared with 37 and five on duty in 1929. Six cases, all off duty, proved fatal. There were no invalids.

(iv) *Motor vehicles, all types—non-occupants.*—There were 35 cases of injury to individuals who were not occupants due to motor vehicles in 1930, and the categories of the vehicles involved were :—Civilian, 30 ; R.A.F., 3 ; unknown, 2. No deaths nor invalids resulted from these accidents.

26. *Injuries sustained in athletics.*—Nine hundred and eighty-three cases—an incidence of 30·7 per 1,000—of this type of injury were reported in 1930 compared with 993—an incidence of 31·7—in 1929. Seven hundred and ninety-seven of these cases occurred on duty and resulted in three deaths and one invalid, while of 129 off-duty cases two died ; in 57 instances there was no statement as to whether the injury was sustained on or off duty. For the purpose of determining whether an accident resulting in injuries occurred on or off duty in athletics, the factor employed is the special statement that the game or exercise was or was not organised by the service. The injuries which resulted in death in the three cases on duty were ruptured spleen, injury to lung, and drowning. Football again accounted for the majority of accidents—70 per cent. in 1930, 66 per cent. in 1929, 68 per cent. in 1928, and 66 per cent. in 1927 ; the commonest injuries, as in previous years, were synovitis of the knee (157) and sprained ankle (127).

27. *Wounds in action.*—Three cases due to rifle fire were reported, of which two—one officer and one airman—proved fatal ; the third, an officer, recovered.

28. *Accidental gunshot wounds.*—Eight cases were reported, resulting in two deaths (one on duty).

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29. *Injuries sustained during voluntary parachute descents.*—Four cases were reported during voluntary descents, while any which occurred as the result of emergency descents have been included under flying accidents.

30. *Injuries caused by animals.*—Seven cases of bites by dogs were reported.

31. *Injuries sustained in workshops.*—Forty-five cases compared with 42 in 1929 occurred in workshops during 1930. There were no resultant deaths nor invalids.

32. *Other injuries.*—It was not possible to classify under any of the preceding headings a further 623 cases of injury of which 231 occurred on duty, 302 off duty, 34 on leave, and 56 which were incomplete in detail. Of the cases on duty, one, who was working in a motor dinghy which was capsized by an aircraft landing, died of shock and lacerated wounds of the back, while two were invalided for deformities, the result of their injuries. Of the cases off duty four proved fatal—one multiple injuries, the result of falling from the roof of a building; one from drowning, and two from fractured skulls sustained in railway accidents; and one case was invalided for the effects of concussion due to a fall in his own home.

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TABLE II.—SICKNESS, DEATHS AND INVALIDS.

Disease group.	1930.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1930.	1926-9.	1921-5.	1930.	1926-9.	1921-5.	1930.	1926-9.	1921-5.
Dysentery	80	—	—	0·6	*0·8*	*1·4*	—	*0·2*	*0·3*	—	—	*0.2*
Enteric group ..	14	2	—	0·1	*0·3*	*0·2*	1·5	*3·1*	*2·3*	—	—	—
Influenza	310	—	—	2·4	*6·0*	*6·1*	—	*0·4*	*0·2*	—	—	—
Malaria	568	—	—	4·4	*7·2*	*6·6*	—	*1·5*	*0·8*	—	*0·2*	*0·1*
Pneumonia ..	45	4	—	0·3	*0·4*	*0·5*	3·0	*3·5*	*5·0*	—	*0·1*	—
Pyrexia of unknown origin	36	—	—	0·3	*0·3*	*0·7*	—	—	*0·2*	—	—	—
Sandfly fever ..	459	—	—	3·5	*4·1*	*7·6*	—	—	—	—	—	—
Tuberculosis ..	30	3	27	0·2	*0·3*	*0·4*	2·2	*4·8*	*3·2*	14·4	*12·3*	*14·1*
Venereal diseases ..	517	—	1	4·0	*3·8*	*5·5*	—	—	—	0·5	*0·1*	*1·0*
Pyæmia and septicæmia	8	1	—	0·1	*0·0*	*0·0*	0·7	*1·7*	*2·3*	—	—	—
Other diseases due to infection	3,950	2	9	30·3	*28·5*	*25·6*	1·5	*1·1*	*1·6*	4·9	*3·0*	*1·6*
Contacts and carriers	80	—	—	0·6	*0·6*	*0·3*	—	—	—	—	*0·1*	*0·1*
Nervous system and brain	200	3	49	1·5	*1·8*	*2·0*	2·2	*2·1*	*2·3*	26·2	*25·2*	*24·9*
Eye	153	—	15	1·2	*1·0*	*1·1*	—	—	—	8·0	*9·9*	*7·5*
Ear and nose ..	336	—	7	2·6	*1·9*	*1·8*	—	*0·2*	—	3·8	*9·3*	*11·4*
Circulatory system	127	2	16	1·0	*1·1*	*1·2*	1·5	*3·3*	*2·6*	8·6	*11·2*	*7·7*
Lymphatic system..	8	—	1	0·1	*0·1*	*0·1*	—	—	*0·2*	0·5	*1·6*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	380	—	8	2·9	*3·0*	*2·9*	—	*0·4*	*1·2*	4·3	*3·3*	*4·3*
Teeth and gums ..	101	—	—	0·8	*0·6*	*0·6*	—	—	—	—	*0·2*	*0·1*
Digestive system ..	1,328	6	2	10·2	*8·8*	*7·5*	4·4	*4·4*	*5·3*	1·1	*2·9*	*3·7*
Disorders of nutrition and metabolism	15	—	2	0·1	*0·0*	*0·0*	—	*0·2*	*0·2*	1·1	*0·5*	*0·6*
Generative system..	285	—	1	2·2	*2·0*	*1·6*	—	—	—	0·5	*0·2*	*0·2*
Organs of locomotion	387	—	21	3·0	*2·8*	*2·9*	—	—	—	11·2	*8·1*	*11·4*
Areolar tissue and skin	859	—	3	6·6	*5·4*	*6·5*	—	*0·2*	—	1·6	*0·9*	*1·1*
Urinary organs ..	105	2	6	0·8	*0·7*	*0·5*	1·5	*0·8*	*0·7*	3·2	*1·7*	*3·1*
Tumours and cysts	62	3	1	0·5	*0·5*	*0·6*	2·2	*1·1*	*1·2*	0·5	*0·6*	*0·5*
Poisons	32	1	—	0·2	*0·3*	*0·3*	0·7	*1·5*	*0·6*	—	—	*0·1*
Debility	17	—	—	0·1	*0·3*	*0·6*	—	—	—	—	—	*0·4*
Other diseases ..	135	—	1	1·0	*0·6*	*0·8*	—	—	—	0·5	*0·1*	*0·1*
Total: all diseases	10,627	29	170	81·6	*83·2*	*85·9*	21·4	*30·5*	*30·2*	90·9	*91·5*	*95·2*
Total: all injuries	2,392	106	17	18·4	*16·8*	*14·1*	78·6	*69·5*	*69·8*	9·1	*8·5*	*4·8*
Total: all disabilities	13,019	135	187	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total force.			Home.			Abroad.			Total force.		
	1930.	Average 1926–29.	Average 1921–25.	1930.	Average 1926–29.	Average 1921–25.	1930.	Average 1926–29.	Average 1921–25.	1930.	Average 1926–29.	Average 1921–25.	1930.	Average 1926–29.	Average 1921–25.	1930.	Average 1926–29.	Average 1921–25.
Diseases caused by infection ..	139·0	*168·9*	*179·8*	317·3	*401·7*	*472·8*	188·1	*232·8*	*261·0*	17·7	*15·9*	*16·5*	14·2	*14·8*	*16·0*	16·1	*15·4*	*16·3*
Contacts and carriers	3·3	*3·2*	*1·8*	0·3	*0·7*	*0·9*	2·5	*2·5*	*1·6*	16·3	*15·3*	*11·0*	78·3	*18·2*	*18·0*	18·6	*15·5*	*12·0*
Effects of parasites	1·5	*0·7*	*0·5*	3·9	*2·5*	*2·4*	2·2	*1·2*	*1·0*	23·0	*23·5*	*7·6*	30·2	*21·0*	*23·3*	26·6	*22·1*	*17·4*
Diseases of nervous system and brain	5·6	*6·6*	*8·6*	8·1	*11·6*	*12·0*	6·2	*8·0*	*9·5*	38·2	*38·8*	*30·1*	49·6	*47·1*	*55·0*	42·2	*42·1*	*38·8*
Diseases of the eye	4·4	*4·5*	*5·0*	5·9	*5·3*	*5·6*	4·8	*4·7*	*5·2*	18·8	*20·1*	*18·2*	14·2	*25·6*	*33·2*	17·2	*21·8*	*22·7*
Diseases of the ear and nose ..	7·7	*6·6*	*8·3*	17·8	*13·9*	*10·1*	10·5	*8·6*	*8·8*	17·5	*21·2*	*21·1*	13·9	*18·4*	*25·4*	15·8	*20·0*	*22·5*
Diseases of the circulatory system	4·1	*4·4*	*4·3*	3·5	*6·5*	*9·4*	4·0	*5·0*	*5·7*	36·6	*41·8*	*24·6*	41·9	*34·5*	*48·1*	37·9	*39·2*	*35·3*
Diseases of the lymphatic and ductless glands	0·2	*0·5*	*0·2*	0·3	*0·3*	*0·3*	0·2	*0·4*	*0·2*	39·4	*62·7*	*36·6*	10·0	*75·5*	*49·7*	28·4	*65·4*	*40·7*
Diseases of the respiratory system	10·7	*12·6*	*13·1*	14·9	*16·5*	*15·8*	11·9	*13·6*	*13·9*	20·6	*19·5*	*16·9*	14·5	*17·1*	*20·5*	18·5	*18·7*	*18·0*
Diseases of the teeth and gums ..	3·0	*2·7*	*2·9*	3·6	*2·8*	*3·2*	3·2	*2·7*	*3·0*	10·2	*10·3*	*9·4*	12·4	*11·1*	*10·8*	10·9	*10·5*	*9·9*
Diseases due to disorders of nutrition or metabolism	0·5	*0·2*	*0·2*	0·5	*0·2*	*0·1*	0·5	*0·2*	*0·2*	33·0	*24·8*	*32·7*	39·8	*20·5*	*53·0*	34·8	*23·8*	*36·8*
Diseases of the digestive system	39·9	*36·6*	*29·7*	45·6	*48·1*	*51·2*	41·5	*39·7*	*35·7*	20·8	*22·3*	*20·2*	19·6	*19·8*	*17·7*	20·4	*21·5*	*19·2*
Diseases of the generative system	8·1	*7·3*	*6·4*	10·9	*13·7*	*10·7*	8·9	*9·1*	*7·6*	27·9	*25·9*	*19·3*	21·3	*20·6*	*21·1*	25·7	*23·7*	*20·0*
Diseases of the organs of locomotion	12·5	*11·6*	*13·3*	10·9	*15·1*	*15·3*	12·1	*12·6*	*13·9*	26·3	*24·7*	*17·9*	17·1	*21·6*	*19·7*	24·0	*23·7*	*18·4*
Diseases of the areolar tissue and skin	28·2	*24·5*	*34·6*	23·4	*24·6*	*22·6*	26·8	*24·6*	*31·3*	15·6	*19·3*	*16·0*	13·5	*16·9*	*16·9*	15·1	*18·6*	*16·2*
Diseases of the urinary organs ..	3·1	*2·3*	*2·4*	3·6	*5·3*	*3·3*	3·3	*3·1*	*2·6*	31·0	*35·6*	*29·7*	42·3	*33·2*	*47·1*	34·5	*34·5*	*35·8*
Tumours and cysts	1·7	*2·2*	*2·6*	2·5	*2·3*	*2·8*	1·9	*2·2*	*2·6*	19·6	*20·1*	*17·4*	24·5	*31·9*	*23·0*	21·3	*23·5*	*19·1*
Poisons	0·4	*0·5*	*0·9*	2·6	*4·1*	*3·1*	1·0	*1·5*	*1·5*	8·4	*12·9*	*7·2*	8·7	*13·5*	*13·2*	8·6	*13·3*	*10·6*
All other diseases	2·8	*2·4*	*4·1*	2·2	*4·9*	*8·2*	2·6	*3·1*	*5·2*	10·3	*12·5*	*11·8*	7·2	*12·9*	*22·5*	9·6	*12·7*	*16·4*
Total, all diseases	276·8	*298·3*	*318·8*	477·8	*580·0*	*649·7*	332·1	*375·6*	*410·5*	19·5	*19·0*	*17·5*	16·1	*17·0*	*18·2*	18·1	*18·1*	*17·8*
General injuries	9·3	*7·8*	*5·1*	11·4	*9·9*	*16·3*	9·8	*8·4*	*8·2*	32·1	*24·1*	*17·0*	23·6	*19·9*	*15·9*	29·4	*22·8*	*16·4*
Local injuries	62·6	*63·1*	*56·3*	71·0	*79·8*	*66·8*	64·9	*67·6*	*59·2*	21·7	*22·9*	*19·5*	17·1	*18·1*	*20·7*	20·3	*21·4*	*19·9*
Total, all injuries..	71·9	*70·9*	*61·4*	82·3	*89·7*	*83·1*	74·8	*76·0*	*67·4*	23·0	*23·1*	*19·3*	18·0	*18·3*	*19·7*	21·5	*21·5*	*19·4*
Total, all disabilities	348·7	*369·2*	*380·2*	560·1	*669·7*	*732·8*	406·9	*451·6*	*477·9*	20·2	*19·8*	*17·8*	16·4	*17·2*	*18·4*	18·8	*18·7*	*18·0*

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Table IV.—Pulmonary Tuberculosis.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Type of unit.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	1	—	1	0·2	Officers, cadets and airman pilots.	4	1·0	Under 1 year ..	—	—	Flying units ..	17	1·1
20–24 ..	5	2	7	0·6	Aircraft apprentices.	—	—	1 year and under 5 years.	4	0·4	Depôts	4	0·4
25–29 ..	9	3	12	1·5	Aircrafthands ..	7	1·1	5 years and under 10 years.	12	1·0	Miscellaneous ..	4	0·6
30–34 ..	1	—	1	0·3	Clerks	1	0·3	10 years and over	9	1·7			
35–39 ..	1	1	2	1·1	Drivers	—	—						
40–44 ..	1	1	2	2·2	Fitters	6	1·4						
45 and over..	—	—	—	—	Carpenters and riggers.	2	0·6						
					Metal workers ..	3	1·3						
					Other skilled trades	2	0·6						
Total ..	18	7	25	0·8		25	0·8		25	0·8		25	0·8

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Table V.—Disease and Injury analysed by Age Groups.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	Total.	Home.	Abroad.	Total.	Home.	Abroad.	Total.	Home.	Abroad.	Total.
Airmen—												
Under 18	1,959	—	1,959	555·4	—	555·4	64·3	—	64·3	619·7	—	619·7
18 and 19	3,362	61	3,423	287·0	409·8	289·2	61·9	49·2	61·6	348·9	459·0	350·8
20 and 21	3,482	878	4,360	292·1	625·3	359·2	99·4	99·1	99·3	391·4	724·4	458·5
22 and 23	2,385	2,094	4,479	283·0	514·8	391·5	92·7	96·0	94·2	375·7	610·8	485·7
24 and 25	2,293	1,883	4,176	241·2	475·8	347·0	77·6	80·7	79·0	318·8	556·5	426·0
26 and 27	1,928	880	2,808	226·7	477·3	305·2	65·4	88·6	72·6	292·0	565·9	377·8
28 and 29	1,848	664	2,512	211·6	397·6	260·7	56·8	60·2	57·7	268·4	457·8	318·4
30 to 34	2,024	867	2,891	194·7	424·5	263·6	42·5	65·7	49·5	237·2	490·2	313·1
35 and over	1,362	554	1,916	174·0	359·2	227·6	33·0	59·6	40·7	207·0	418·8	268·3
Total—airmen	20,643	7,881	28,524	278·9	482·0	338·2	69·8	82·6	74·0	348·7	564·6	412·2
Total—officers and cadets ..	2,548	928	3,476	259·8	441·8	308·4	88·7	79·7	86·3	348·5	521·5	394·7
Total—all ranks	23,191	8,809	32,000	276·8	477·8	332·1	71·9	82·3	74·8	348·7	560·1	406·9

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhœa—acute ..	223	9·6	40·3	66·0	104	11·8	17·4	61·1	327	10·2	57·7	64·5
relapse ..	26	1·1	4·6	64·0	21	2·4	2·4	41·1	47	1·5	7·0	53·8
Total ..	249	10·7	44·9	65·8	125	14·2	19·8	57·7	374	11·7	64·7	63·1
Syphilis—admissions :												
Primary	17	0·7	2·3	50·1	41	4·7	5·1	45·4	58	1·8	7·4	46·8
Secondary	6	0·3	0·8	48·8	—	—	—	—	6	0·2	0·8	48·8
Tertiary	2	0·1	0·2	34·5	2	0·2	0·5	86·5	4	0·1	0·7	60·5
Congenital	2	0·1	1·0	182·0	—	—	—	—	2	0·0	1·0	182·0
For further treatment	6	0·3	0·9	52·2	1	0·1	0·0	6·0	7	0·2	0·9	45·6
Total	33	1·5	5·2	57·3	44	5·0	5·6	46·4	77	2·3	10·8	51·1
Soft chancre	11	0·5	0·5	15·0	55	6·2	4·8	31·6	66	2·1	5·3	28·8
Total, venereal disease 1930	293	12·7	50·6	62·9	224	25·4	30·2	49·1	517	16·1	80·6	56·9
1929	*250*	*11·0*	*37·8*	*55·2*	*216*	*25·5*	*32·9*	*55·6*	*466*	*15·0*	*70·7*	*55·4*
1928	*302*	*13·5*	*44·6*	*54·0*	*254*	*31·3*	*34·4*	*49·6*	*556*	*18·2*	*79·0*	*52·0*
1927	*269*	*12·5*	*40·8*	*55·4*	*259*	*30·1*	*31·6*	*44·6*	*528*	*17·5*	*72·4*	*50·1*
1926	*357*	*14·9*	*59·5*	*60·8*	*208*	*23·0*	*31·8*	*55·9*	*565*	*17·1*	*91·3*	*59·0*
1925	*400*	*16·8*	*57·0*	*52·0*	*256*	*27·9*	*36·4*	*51·9*	*656*	*19·9*	*93·4*	*51·9*
1924	*432*	*19·2*	*59·3*	*50·3*	*272*	*30·0*	*44·0*	*59·2*	*704*	*22·3*	*103·3*	*53·8*
1923	*482*	*23·8*	*64·8*	*49·1*	*299*	*31·4*	*42·3*	*51·7*	*781*	*26·2*	*107·2*	*50·1*
1922	*525*	*24·9*	*76·1*	*52·9*	*263*	*33·5*	*34·4*	*47·7*	*788*	*27·2*	*110·5*	*51·2*
1921	*709*	*32·3*	*94·2*	*48·5*	*314*	*49·2*	*52·2*	*60·7*	*1,023*	*36·1*	*146·4*	*52·2*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 23,191. (Includes Fleet Air Arm at Home).				Mediterranean Littoral. Average strength, 4,034.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily	Duration of case.			No. sick daily	Duration of case.
Diseases caused by Infection.				Days.				Days.
Dysentery—								
Clinical, primary ..	—	—	—	—	5	1·2	0·3	22·0
„ recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	—	—	—	—	8	2·0	0·4	17·1
„ recurrent ..	—	—	—	—	—	—	—	—
Amœbic, primary ..	—	—	—	—	4	1·0	0·5	42·0
„ recurrent ..	2	0·1	0·2	32·5	1	0·2	0·2	91·0
Total—dysentery ..	2	0·1	0·2	32·5	18	4·5	1·4	28·1
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	—	—
Paratyphoid fever, A & B	1	0·0	0·1	33·0	3	0·7	0·7	85·3
Clinical enteric	—	—	—	—	1	0·2	0·2	64·0
Enteritis	64	2·8	1·5	8·3	127	31·5	2·1	6·0
Influenza	246	10·6	6·1	9·0	31	7·7	0·5	6·0
Malaria—								
Clinical, primary.. ..	—	—	—	—	5	1·2	0·1	9·0
„ recurrent ..	9	0·4	0·3	13·8	1	0·2	0·0	7·0
Benign tertian, primary..	—	—	—	—	37	9·2	1·3	12·9
„ „ recurrent	47	2·0	2·7	21·0	30	7·4	0·7	8·5
Quartan primary and recurrent	—	—	—	—	—	—	—	—
Malignant tertian, primary	—	—	—	—	17	4·2	0·7	15·6
„ „ recurrent	2	0·1	0·1	11·0	5	1·2	0·2	12·8
Total—malaria	58	2·5	3·1	19·6	95	23·5	3·1	11·7
Pyrexia of unknown origin..	17	0·7	0·3	7·3	7	1·7	0·1	4·6
Sandfly fever	—	—	—	—	106	26·3	1·8	6·3
Tuberculosis	22	0·9	3·1	51·7	1	0·2	1·4	498·0
Upper air passage infections	1,474	63·6	35·0	8·7	326	80·8	5·4	6·0
Venereal disease	293	12·6	50·5	62·9	62	15·4	8·9	52·6
Other diseases caused by infection	1,046	45·1	56·7	19·8	228	56·5	7·9	12·7
Total—all diseases caused by infection ..	3,223	139·0	156·5	17·7	1,005	249·1	33·4	12·1
All other diseases ..	3,196	137·8	186·4	21·3	623	154·4	33·1	19·4
Total—all diseases ..	6,419	276·8	342·9	19·5	1,628	403·6	66·6	14·9
Injuries—								
General injuries	215	9·3	18·9	32·1	32	7·9	2·7	30·6
Local injuries	1,452	62·6	86·2	21·7	288	71·4	10·9	13·8
Total—all injuries ..	1,667	71·9	105·1	23·0	320	79·3	13·6	15·5
Total—all disabilities ..	8,086	348·7	448·0	20·2	1,948	482·9	80·2	15·0

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Diseases caused by Infection.

Iraq. Average strength, 2,156.				India. Average strength, 2,085.				Total Force. Average strength, 32,000.			
No. of cases	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case.			No. sick daily	Duration of case.			No. sick daily	Duration of case.
			Days.				Days.				Days.
—	—	—	—	7	3·4	0·5	28·3	12	0·4	0·8	25·7
—	—	—	—	2	1·0	0·1	13·5	2	0·1	0·1	13·5
5	2·3	0·3	20·0	24	11·5	1·5	22·2	38	1·2	2·2	20·9
—	—	—	—	2	1·0	0·1	21·5	2	0·1	0·1	21·5
15	7·0	1·7	41·3	3	1·4	0·2	26·7	22	0·7	2·4	39·4
1	0·5	0·1	30·0	—	—	—	—	4	0·1	0·5	46·5
21	9·7	2·1	35·7	38	18·2	2·4	23·2	80	2·5	6·1	27·8
2	0·9	1·2	222·0	—	—	0·0	—	2	0·1	1·2	224·5
—	—	—	—	1	0·5	0·1	23.0	5	0·2	0·9	62·4
—	—	0·3	—	6	2·9	2·3	139·7	7	0·2	2·7	142·0
106	49·2	2·2	7·7	74	35·5	1·4	6·7	386	12·1	7·3	6·9
7	3·2	0·1	6·4	24	11·5	0·6	9·8	310	9·7	7·4	8·7
4	1·9	0·1	11·0	18	8·6	0·4	8·6	27	0·8	0·7	9·0
4	1·9	0·1	13·5	19	9·1	0·5	10·0	33	1·0	1·0	11·4
42	19·5	1·5	13·1	89	42·7	2·3	9·4	169	5·3	5·2	11·2
22	10·2	1·0	16·1	141	67·6	3·2	8·2	241	7·5	7·6	11·5
1	0·5	0·1	20·0	1	0·5	0·0	15·0	2	0·1	0·1	17·5
31	14·4	1·3	15·0	19	9·1	0·6	11·8	67	2·1	2·6	14·3
16	7·4	0·6	12·6	6	2·9	0·1	8·3	29	0·9	0·9	11·6
120	55·7	4·6	14·1	293	140·5	7·2	9·0	568	17·8	18·1	11·6
5	2·3	0·1	7·6	5	2·4	0·3	20·2	36	1·1	0·9	9·0
187	86·7	3·7	7·2	152	72·9	2·9	6·9	459	14·3	8·6	6·9
3	1·4	0·5	58·3	—	—	0·3	—	30	0·9	6·7	81·1
140	64·9	3·3	8·7	164	78·7	3·3	7·3	2,150	67·2	47·6	8·1
104	48·2	13·4	46·9	17	8·2	3·2	67·6	517	16·2	80·7	56·9
83	38·5	6·8	29·8	79	37·9	3·8	17·5	1,467	45·8	76·8	19·1
778	360·9	38·2	17·9	853	409·1	27·7	11·8	6,017	188·1	264·9	16·1
364	168·8	22·0	22·1	348	166·9	17·7	18·5	4,610	144·1	263·3	20·8
1,142	529·7	60·2	19·3	1,201	576·5	45·4	13·8	10,627	332·1	528·2	18·1
43	19·9	2·8	23·4	22	10·6	1·0	15·8	315	9·8	25·3	29·4
99	45·9	7·8	28·9	183	87·8	7·6	15·2	2,077	64·9	115·5	20·3
142	65·9	10·6	27·2	205	98·3	8·6	15·2	2,392	74·8	140·8	21·5
1,284	595·5	70·8	20·1	1,406	674·3	53·9	14·0	13,019	406·9	669·0	18·8

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT.

Type of unit.	——	Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	192·5	0·8	3·7	10·1	19·2	501·0	2·5	4·3	21·9	15·9	274·1	1·3	3·8	13·3	17·6
	Injury	74·3	3·9	0·6	4·6	22·4	91·7	7·2	—	5·2	20·8	78·9	4·8	0·5	4·7	21·9
	Total	266·8	4·7	4·3	14·7	20·1	592·7	9·7	4·3	27·1	16·7	353·0	6·1	4·3	18·0	18·6
Depôts (store and repair), ground schools and armoured car companies.	Disease	363·6	0·3	8·0	19·7	19·8	393·5	0·3	1·5	17·3	16·1	372·7	0·3	6·0	19·0	18·6
	Injury	72·7	1·5	0·8	4·6	22·9	68·1	1·5	0·3	2·7	14·6	71·3	1·5	0·7	4·0	20·5
	Total	436·3	1·8	8·8	24·3	20·3	461·6	1·8	1·8	20·0	15·9	444·0	1·8	6·7	23·0	18·9
Miscellaneous units, headquarters, personnel depôts, etc.	Disease	333·1	1·2	9·2	17·6	19·3	588·5	0·6	2·4	26·4	16·3	397·5	1·1	7·5	19·8	18·2
	Injury	65·3	2·9	0·6	4·4	24·8	87·9	3·0	—	3·9	16·3	71·0	2·9	0·5	4·3	22·1
	Total	398·5	4·1	9·8	22·0	20·2	676·4	3·6	2·4	30·3	16·3	468·5	4·0	8·0	24·1	18·8
Total	Disease	276·8	0·7	6·2	14·8	19·5	477·8	1·4	3·0	21·0	16·1	332·1	0·9	5·3	16·5	18·1
	Injury	71·9	2·9	0·7	4·5	23·0	82·3	4·3	0·1	4·1	18·0	74·8	3·3	0·5	4·4	21·5
	Total	348·7	3·6	6·9	19·3	20·2	560·1	5·7	3·1	25·1	16·4	406·9	4·2	5·8	20·9	18·8

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Aircrafthands	9·2	73·1	22·7	12·9	44·7	183·9	346·5	70·5	417·0
Aircraft apprentices ..	7·3	130·7	—	8·0	57·1	241·7	444·8	54·5	499·3
Carpenters and riggers ..	9·9	62·5	19·2	12·7	36·1	175·5	315·8	106·4	422·2
Clerks	9·3	61·5	17·2	14·1	35·4	185·4	322·8	56·3	379·1
Drivers	6·4	59·7	30·3	6·0	34·9	193·8	331·2	72·1	403·3
Fitters	7·4	58·1	14·4	9·6	28·8	171·9	290·2	86·4	376·6
Metal workers	10·3	57·6	16·3	9·9	34·8	192·2	321·2	77·8	399·0
Officers, cadets and airman pilots	18·1	45·1	7·5	12·6	53·6	157·1	294·0	85·4	379·4
Other skilled trades.. ..	8·0	55·4	17·6	17·6	42·6	188·3	329·5	57·7	387·2
Total force	9·7	67·2	16·2	11·9	41·5	185·7	332·1	74·8	406·9

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TABLE X.—INJURIES.

—	Number of cases.							
	Airscrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	26	797	144	24	21	288	1,300	*56*
Off duty	—	129	4	431	4	341	909	*39*
Not stated	—	57	—	6	—	61	124	*5*
Total	26	983	148	461	25	690	2,333	*100*
Nature of injury:								
General	2	7	85	133	—	39	266	*11*
Head or face ..	3	48	38	128	3	108	328	*14*
Trunk	2	61	10	13	—	40	126	*5*
Upper extremity .	15	135	6	66	19	161	402	*17*
Lower extremity .	4	732	9	121	3	342	1,211	*53*
Total	26	983	148	461	25	690	2,333	*100*
Deaths:								
On duty	—	3	68	—	—	4	75	*72*
Off duty	—	3	1	20	—	5	29	*28*
Total	—	6	69	20	—	9	104	*100*

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Table XI.—Flying Casualties on Duty.

Rank.	Number of casualties.		
	1928.	1929.	1930. (See *Note*).
Officers.			
Killed	*36*	*23*	36 (5a)
Injured	*45*	*62*	41 (1)
Cadets.			
Killed	*1*	—	3
Injured	*3*	*4*	1
Airmen.			
Killed	*28*	*16*	29 (1a)
Injured	*44*	*34*	34
Total, all ranks.			
Killed	*65*	*39*	68 (6)
Injured	*92*	*100*	76 (1)
Total	*157*	*139*	144
Deaths as a percentage of total flying casualties ..	*41*	*28*	47
Average duration of each case (days) :—			
Deaths included	*23*	*33*	31
Deaths excluded	*40*	*46*	58

Note. The numbers in ( ) represent casualties in accidents to airships (6 deaths) or kite balloons (one injured).

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases caused by infection.						Days.							Days.						Days.
Diphtheria	48	—	—	2·1	6·2	47·0	10	—	—	—	1·1	1·1	40·3	58	—	—	1·8	7·3	45·8
*Dysentery	2	—	—	0·1	0·2	32·5	78	—	2	—	8·8	5·9	27·7	80	—	—	2·5	6·1	27·8
*Enteric group	1	—	—	0·0	0·1	33·0	13	2	5	—	1·6	4·7	132·5	14	2	—	0·5	4·8	125·4
*Enteritis (acute) and gastro-enteritis (acute)	64	—	—	2·8	1·5	8·3	322	—	1	—	36·6	5·9	6·7	386	—	—	12·1	7·3	6·9
*Influenza (including influenzal pneumonia)	246	—	—	10·6	6·1	9·0	64	—	—	—	7·3	1·3	7·5	310	—	—	9·7	7·4	8·7
Leishmaniasis	1	—	—	0·0	0·1	30·0	3	—	—	—	0·3	0·3	35·0	4	—	—	0·1	0·4	33·8
*Malaria	58	—	—	2·5	3·1	19·6	510	—	—	—	57·9	15·0	10·7	568	—	—	17·8	18·1	11·6
Measles	32	—	—	1·4	1·8	20·8	1	—	—	—	0·1	0·1	24·0	33	—	—	1·0	1·9	20·9
Mumps	49	—	—	2·1	3·1	23·0	—	—	—	—	—	—	—	49	—	—	1·5	3·1	23·0
Pneumonia	29	4	—	1·3	2·9	36·5	16	—	6	—	1·8	3·0	69·5	45	4	—	1·4	5·9	48·2
*Pyrexia of unknown origin	17	—	—	0·7	0·3	7·3	19	—	—	—	2·2	0·5	10·5	36	—	—	1·1	0·9	9·0
Rheumatism (acute) ..	70	—	2	13·0	8·8	45·8	15	—	3	—	1·7	2·5	61·8	85	—	2	2·7	11·3	48·6
Rubella	101	—	—	4·4	5·5	19·9	2	—	—	—	0·2	0·1	24·5	103	—	—	3·2	5·6	20·0
*Sandfly fever	—	—	—	—	—	—	459	—	—	—	52·1	8·6	6·9	459	—	—	14·3	8·6	6·9
Scarlet fever	20	—	—	0·9	2·3	42·2	2	—	—	—	0·2	0·4	66·5	22	—	—	0·7	2·7	44·4
Tuberculosis.																			
Respiratory	18	1	16	0·8	2·2	45·4	7	1	8	8	0·8	2·8	147·4	25	2	24	0·8	5·1	74·0
Other	4	1	2	0·2	0·9	80·0	1	—	1	1	0·1	0·7	264·0	5	1	3	0·2	1·6	116·8
*TOTAL—TUBERCULOSIS	22	2	18	0·9	3·1	51·7	8	1	9	9	0·9	3·6	162·0	30	3	27	0·9	6·7	81·1

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Acute upper air passage infections.																			
Laryngitis	15	—	—	0·6	0·9	21·8	6	—	—	—	0·7	0·2	11·3	21	—	—	0·7	1·1	18·8
Pharyngitis and naso-pharyngitis	473	—	—	20·4	9·7	7·4	318	—	—	—	36·1	4·9	5·7	791	—	—	24·7	14·6	6·7
Rhinitis, acute catarrhal	54	—	—	2·3	1·3	8·9	37	—	—	—	4·2	0·6	5·6	91	—	—	2·8	1·9	7·6
Tonsillitis (including quinsy and Vincent's angina)	932	—	—	40·2	23·1	9·1	315	—	—	—	35·8	7·0	8·1	1,247	—	—	39·0	30·1	8·8
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	1,474	—	—	63·6	35·0	8·7	676	—	—	—	76·7	12·6	6·8	2,150	—	—	67·2	47·6	8·1
Vaccinia	97	—	—	4·2	1·6	6·2	2	—	—	—	0·2	0·0	7.0	99	—	—	3·1	1·7	6·2
Venereal disease.																			
Gonorrhœa	249	—	1	10·7	44·9	65·8	125	—	—	—	14·2	19·8	57·7	374	—	1	11·7	64·7	63·1
Syphilis	33	—	—	1·5	5·2	57·3	44	—	3	—	5·0	5·6	46·4	77	—	—	2·4	10·8	51·1
Soft chancre	11	—	—	0·5	0·5	15·0	55	—	—	—	6·2	4·8	31·6	66	—	—	2·1	5·2	28·8
*TOTAL—VENEREAL DISEASES	293	—	1	12·7	50·5	62·9	224	—	3	—	25·4	30·1	49·1	517	—	1	16·2	80·7	56·9
Abscess, hand and finger	22	—	—	0·9	0·7	11·7	7	—	—	—	0·8	0·3	18·0	29	—	—	0·9	1·0	13·2
Abscess, other	43	—	1	1·9	1·4	11·8	14	—	—	—	1·6	0·5	11·9	57	—	1	1·8	1·8	11·8
Boils	105	—	—	4·5	3·1	10·8	72	—	—	—	8·2	1·9	9·5	177	—	—	5·5	5·0	10·3
Carbuncles	21	—	—	0·9	0·6	10·1	6	—	—	—	0·7	0·3	17·3	27	—	—	0·8	0·9	11·7
Cellulitis	307	—	—	13·2	10·6	12·7	181	—	—	—	20·5	4·8	9·7	488	—	—	15·2	15·5	11·6
Lymphadenitis and lymphangitis	48	—	2	2·1	2·9	22·1	23	—	—	—	2·6	1·2	19·5	71	—	2	2·2	4·1	21·2
Osteo-myelitis, periostitis, and osteitis	11	—	1	0·5	1·8	60·5	6	—	—	—	0·7	0·9	55·7	17	—	1	0·5	2·7	58·8
Pyæmia, septicæmia ..	5	—	—	0·2	0·3	19·2	3	1	—	—	0·3	0·1	6·3	8	1	—	0·2	0·3	14·4
Ulcer	11	—	—	0·5	1·0	33·5	2	—	—	—	0·2	0·1	15·0	13	—	—	0·4	1·1	30·6
Other diseases caused by infection	26	2	2	1·1	1·9	26·9	56	—	1	1	6·4	2·5	16·1	82	2	3	2·6	4·4	19·5
*TOTAL—DISEASES CAUSED BY INFECTION	3,223	8	27	139·0	156·5	17·7	2,794	4	30	10	317·3	108·4	14·2	6,017	12	37	188·1	264·9	16·1

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.—*continued.*

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total Force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers ..	77	—	—	3·3	3·4	16·3	3	—	—	—	0·3	0·6	78·3	80	—	—	2·5	4·1	18·6
Effects of parasites ..	35	—	—	1·5	2·2	23·0	34	—	3	1	3·9	2·8	30·2	69	—	1	2·2	5·0	26·6
Other diseases classified by systems. Diseases of nervous system and brain.																			
Neuritis	17	—	1	0·7	1·5	31·8	11	—	3	—	1·2	1·5	48·6	28	—	1	0·9	2·9	38·4
Nerve paralysis	5	—	—	0·2	0·9	68·8	1	—	1	—	0·1	0·7	248·0	6	—	—	0·2	1·6	98·7
Epilepsy (including observation cases)	10	—	5	0·4	1·4	51·9	1	—	1	1	0·1	0·4	149·0	11	—	6	0·3	1·8	60·7
Psychoneurosis	41	—	22	1·8	3·9	35·1	33	—	10	3	3·7	4·2	46·2	74	—	25	2·3	8·1	40·0
Mental diseases (including observation cases) ..	5	—	4	0·2	1·2	89·6	7	—	4	4	0·8	1·9	99·4	12	—	8	0·4	3·1	95·3
Other diseases of nervous system	51	2	7	2·2	4·5	32·0	18	1	3	2	2·0	1·0	20·6	69	3	9	2·2	5·5	29·0
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	129	2	39	5·6	13·5	38·2	71	1	22	10	8·1	9·6	49·6	200	3	49	6·2	23·1	42·2

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Diseases of the Eye.																			
Infections	75	—	4	3·2	4·0	19·4	32	—	1	—	3·6	1·1	12·1	107	—	4	3·3	5·1	17·2
Other diseases of the eye	26	—	11	1·1	1·2	17·1	20	—	4	—	2·3	1·0	17·5	46	—	11	1·4	2·2	17·3
TOTAL—DISEASES OF THE EYE	101	—	15	4·4	5·2	18·8	52	—	5	—	5·9	2·0	14·2	153	—	15	4·8	7·2	17·2
Diseases of ear and nose.																			
Otitis media, acute ..	31	—	—	1·3	1·2	14·4	27	—	2	—	3·1	1·2	16·0	58	—	—	1·8	2·4	15·1
Otitis media, chronic ..	12	—	3	0·5	0·8	24·2	31	—	4	—	3·5	2·1	25·1	43	—	3	1·3	2·9	24·9
Other diseases of ear and nose	136	—	4	5·9	6·6	17·6	99	—	2	—	11·2	2·7	9·8	235	—	4	7·3	9·2	14·4
TOTAL—DISEASES OF EAR AND NOSE	179	—	7	7·7	8·6	17·5	157	—	8	—	17·8	6·0	13·9	336	—	7	10·5	14·6	15·8
Diseases of the circulatory system.																			
Endocarditis, acute ..	1	—	—	0·0	0·1	31·0	—	—	—	—	—	—	—	1	—	—	0·0	0·1	31·0
Valvular disease of the heart	6	—	5	0·3	1·3	80·0	1	—	2	—	0·1	0·6	220·0	7	—	5	0·2	1·9	100·0
Disease of myocardium ..	5	—	4	0·2	2·4	178·6	2	—	1	1	0·2	0·4	82·0	7	—	5	0·2	2·9	151·0
Disordered action of the heart	24	—	1	1·0	1·6	23·6	11	1	3	—	1·2	1·1	35·4	35	1	1	1·1	2·6	27·3
Varix	33	—	2	1·4	2·1	23·1	6	—	—	—	0·7	0·3	16·5	39	—	2	1·2	2·4	22·1
Other diseases of the circulatory system ..	27	1	2	1·2	2·1	29·0	11	—	1	1	1·2	1·2	38·7	38	1	3	1·2	3·3	31·8
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	96	1	14	4·1	9·6	36·6	31	1	7	2	3·5	3·6	41·9	127	2	16	4·0	13·2	37·9
Diseases of lymphatic system and ductless glands	5	—	1	0·2	0·5	39·4	3	—	—	—	0·3	0·1	10·0	8	—	1	0·2	0·6	28·4

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.—*continued.*

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total Force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory system. (*a*)																			
Bronchitis	95	—	2	4·1	5·4	20·9	46	—	—	—	5·2	1·9	14·9	141	—	2	4·4	7·3	19·0
Tracheitis	80	—	—	3·4	1·3	6·1	59	—	—	—	6·7	1·0	6·1	139	—	—	4·3	2·3	6·1
Asthma	11	—	1	0·5	0·5	15·1	2	—	1	1	0·2	0·3	53·5	13	—	2	0·4	0·7	21·0
Pleurisy	48	—	2	2·1	4·6	34·6	18	—	2	—	2·0	1·6	32·2	66	—	2	2·1	6·1	34·0
Other diseases of the respiratory system ..	15	—	2	0·6	2·2	54·5	6	—	1	—	0·7	0·5	28·5	21	—	2	0·7	2·7	47·1
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	249	—	7	10·7	14·0	20·6	131	—	4	1	14·9	5·2	14·5	380	—	8	11·9	19·3	18·5
Diseases of teeth and gums	69	—	—	3·0	1·9	10·2	32	—	1	—	3·6	1·1	12·4	101	—	—	3·2	3·0	10·9
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	213	—	—	9·2	8·8	15·1	23	—	1	—	2·6	1·2	18·5	236	—	—	7·4	10·0	15·4
Gastritis, acute	88	—	—	3·8	2·1	8·7	52	—	—	—	5·9	1·1	8·0	140	—	—	4·4	3·2	8·5
Gastritis, chronic ..	9	—	—	0·4	0·5	20·6	7	—	2	—	0·8	0·8	41·3	16	—	—	0·5	1·3	29·6

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Dyspepsia	34	—	—	1·5	0·8	8·5	23	—	1	—	2·6	0·8	12·3	57	—	—	1·8	1·6	10·1
Appendicitis	219	1	—	9·4	15·9	26·5	50	1	4	—	5·7	5·1	37·2	269	2	—	8·4	21·0	28·5
Hernia	72	—	1	3·1	6·1	31·0	11	—	—	—	1·2	0·7	23·8	83	—	1	2·6	6·8	30·0
Constipation	61	—	—	2·6	1·2	7·1	64	—	1	—	7·3	1·4	8·2	125	—	—	3·9	2·6	7·6
Colic	21	—	—	0·9	0·4	7·6	10	—	—	—	1·1	0·2	9·0	31	—	—	1·0	0·7	8·1
Hæmorrhoids	52	—	—	2·2	1·9	13·6	39	—	—	—	4·4	1·8	16·8	91	—	—	2·8	3·7	15·0
Jaundice	20	—	—	0·9	1·3	23·6	54	—	—	—	6·1	2·4	15·9	74	—	—	2·3	3·7	18·0
Other diseases of the digestive system	137	1	1	5·9	13·6	36·2	69	3	7	—	7·8	6·0	31·9	206	4	1	6·4	19·6	34·8
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	926	2	2	39·9	52·7	20·8	402	4	16	—	45·6	21·6	19·6	1,328	6	2	41·5	74·2	20·4
Diseases due to disorders of nutrition or metabolism	11	—	2	0·5	1·0	33·0	4	—	—	—	0·5	0·4	39·8	15	—	2	0·5	1·4	34·8
Diseases of the Generative System.																			
Phimosis	27	—	—	1·2	1·3	17·7	8	—	—	—	0·9	0·5	21·9	35	—	—	1·1	1·8	18·7
Balanitis	15	—	—	0·6	0·7	16·6	2	—	—	—	0·2	0·1	14·5	17	—	—	0·5	0·8	16·4
Urethritis	73	—	—	3·1	7·3	36·6	49	—	—	—	5·6	3·1	22·8	122	—	—	3·8	10·4	31·0
Varicocele	17	—	—	0·7	1·1	23·6	8	—	—	—	0·9	0·5	21·2	25	—	—	0·8	1·6	22·9
Hydrocele	7	—	—	0·3	0·5	27·9	—	—	—	—	—	—	—	7	—	—	0·2	0·5	27·9
Epididymitis	9	—	—	0·4	0·8	33·2	2	—	—	—	0·2	0·1	20·5	11	—	—	0·3	0·9	30·9
Other diseases of the generative system	41	—	1	1·8	2·7	23·9	27	—	—	—	3·1	1·4	19·1	68	—	1	2·1	4·1	22·0
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	189	—	1	8·1	14·5	27·9	96	—	—	—	10·9	5·6	21·3	285	—	1	8·9	20·1	25·7

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 22.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.—*continued.*

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total Force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	14	—	2	0·6	3·5	92·4	5	—	—	—	0·6	0·2	13·2	19	—	2	0·6	3·7	71·6
Diseases of the joints ..	103	—	9	4·4	9·7	34·4	28	—	—	—	3·2	1·9	24·4	131	—	9	4·1	11·6	32·3
Myalgia and lumbago ..	95	—	1	4·1	3·3	12·8	28	—	—	—	3·2	0·7	9·1	123	—	1	3·8	4·0	11·9
Diseases of muscles, tendons and bursæ ..	47	—	1	2·0	1·9	14·7	24	—	—	—	2·7	1·1	16·8	71	—	1	2·2	3·0	15·4
Deformities of limbs ..	32	—	8	1·4	2·4	27·9	11	—	—	—	1·2	0·7	21·8	43	—	8	1·3	3·1	26·3
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	291	—	21	12·5	20·9	26·3	96	—	—	—	10·9	4·5	17·1	387	—	21	12·1	25·4	24·0
Diseases of Areolar Tissue or Skin.																			
Impetigo	205	—	—	8·8	8·6	15·3	70	—	—	—	7·9	2·4	12·4	275	—	—	8·6	11·0	14·5
Scabies	66	—	—	2·8	1·6	9·1	10	—	—	—	1·1	0·3	10·8	76	—	—	2·4	1·9	9·3
Dermatitis	34	—	—	1·5	1·9	20·8	22	—	—	—	2·5	0·9	15·3	56	—	—	1·8	2·9	18·6
Urticaria	21	—	—	0·9	0·6	11·3	7	—	—	—	0·8	0·1	7·1	28	—	—	0·9	0·8	10·2
Eczema	27	—	—	1·2	2·4	32·7	8	—	—	—	0·9	0·3	11·8	35	—	—	1·1	2·7	27·9
Herpes	29	—	—	1·3	0·9	10·8	11	—	—	—	1·2	0·3	9·9	40	—	—	1·2	1·2	10·5
Psoriasis	7	—	—	0·3	0·8	4·3	—	—	—	—	—	—	—	7	—	—	0·2	0·8	4·3
Tinea cruris	124	—	—	5·3	3·4	10·1	19	—	—	—	2·2	0·4	8·5	143	—	—	4·5	3·9	9·8

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Ingrowing toe-nail ..	29	—	1	1·3	1·1	13·7	19	—	—	—	2·2	0·9	16·7	48	—	1	1·5	2·0	14·9
Other diseases of the skin	111	—	2	4·8	6·4	21·2	40	—	2	—	4·5	2·0	18·4	151	—	2	4·7	8·5	20·5
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	653	—	3	28·2	27·9	15·6	206	—	2	—	23·4	7·6	13·5	859	—	3	26·8	35·5	15·1
Diseases of Urinary Organs.																			
Nephritis	14	2	2	0·6	1·4	36·7	2	—	—	—	0·2	0·1	26·5	16	2	2	0·5	1·6	35·4
Pyelitis	4	—	—	0·2	0·4	39·5	4	—	—	—	0·5	0·2	18·2	8	—	—	0·2	0·6	28·9
Cystitis	11	—	—	0·5	1·0	33·8	3	—	—	—	0·3	0·1	10·7	14	—	—	0·4	1·1	28·9
Incontinence of urine ..	9	—	2	0·4	0·9	34·9	1	—	—	—	0·1	0·0	9·0	10	—	2	0·3	0·9	32·3
Albuminuria	9	—	—	0·4	0·3	10·4	2	—	—	—	0·2	0·1	16·5	11	—	—	0·3	0·3	11·5
Other diseases of urinary organs	26	—	1	1·1	2·2	31·3	20	—	4	1	2·3	3·2	57·6	46	—	2	1·4	5·4	42·8
TOTAL—DISEASES OF URINARY ORGANS ..	73	2	5	3·1	6·2	31·0	32	—	4	1	3·6	3·7	42·3	105	2	6	3·3	9·9	34·5
Tumours and Cysts.																			
Tumours, non-malignant	14	—	—	0·6	0·9	23·9	8	1	—	—	0·9	0·6	29·2	22	1	—	0·7	1·6	25·8
Tumours, malignant ..	4	1	—	0·2	0·6	52·2	2	1	1	1	0·2	0·5	84·0	6	2	1	0·2	1·0	63·0
Cysts	22	—	—	0·9	0·7	10·9	12	—	—	—	1·4	0·4	11·3	34	—	—	1·1	1·0	11·0
TOTAL—TUMOURS AND CYSTS	40	1	—	1·7	2·1	19·6	22	2	1	1	2·5	1·5	24·5	62	3	1	1·9	3·6	21·3
Poisons.																			
Effects of alcohol ..	—	—	—	—	—	—	1	—	—	—	0·1	0·0	18·0	1	—	—	0·0	0·0	18·0
Other poisons	9	1	—	0·4	0·2	8·4	22	—	—	—	2·5	0·5	8·2	31	1	—	1·0	0·7	8·3
TOTAL—POISONS	9	1	—	0·4	0·2	8·4	23	—	—	—	2·6	0·5	8·7	32	1	—	1·0	0·8	8·6
No appreciable disease ..	54	—	—	2·3	1·5	10·2	12	—	—	—	1·4	0·2	7·6	66	—	—	2·1	1·8	9·7
Debility	10	—	—	0·4	0·3	10·8	7	—	—	—	0·8	0·1	6·4	17	—	—	0·5	0·4	9·0
*TOTAL—ALL DISEASES	6,419	17	144	276·8	342·9	19·5	4,208	12	103	26	477·8	185·3	16·1	10,627	29	170	332·1	528·2	18·1

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.—*continued.*

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total Force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
General Injuries.																			
Burns and scalds ..	7	1	—	0·3	1·2	63·7	7	2	1	—	0·8	0·5	23·9	14	3	—	0·4	1·7	43·8
Heat exhaustion, heat hyperpyrexia and sunstroke	8	—	—	0·3	0·2	7·0	40	2	1	—	4·5	1·9	17·1	48	2	—	1·5	2·0	15·4
Drowning and effects of immersion	3	3	—	0·1	—	—	3	2	—	—	0·3	0·1	6·7	6	5	—	0·2	0·1	3·3
Minor injuries	107	—	—	4·6	3·1	10·5	13	—	—	—	1·5	0·4	10·0	120	—	—	3·8	3·4	10·4
Multiple fractures ..	85	40	4	3·7	14·1	60·7	32	21	4	—	3·6	3·6	41·2	117	61	4	3·7	17·7	55·4
Gunshot wounds ..	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	—	—
Multiple wounds	3	—	—	0·1	0·3	31·7	2	1	—	—	0·2	0·1	14·0	5	1	—	0·2	0·3	24·6
Other injuries	2	—	—	0·1	0·0	6·5	2	—	—	—	0·2	0·0	5·0	4	—	—	0·1	0·1	5·8
*TOTAL—GENERAL INJURIES	215	44	4	9·3	18·9	32·1	100	29	6	—	11·4	6·5	23·6	315	73	4	9·8	25·3	29·4
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds ..	105	—	—	4·5	2·8	9·9	28	—	—	—	3·2	0·7	8·8	133	—	—	4·2	3·5	9·7
Gunshot wounds	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	—	—
Burns and scalds ..	5	—	—	0·2	0·2	15·2	1	—	—	—	0·1	0·0	4·0	6	—	—	0·2	0·2	13·3
Fracture of skull ..	40	20	1	1·7	2·4	21·6	5	3	3	—	0·6	0·7	59·2	45	23	1	1·4	3·0	24·7
Concussion of brain ..	85	—	1	3·7	4·4	19·1	14	—	5	—	1·6	2·0	51·4	99	—	1	3·1	6·4	23·6
Other fractures	19	—	—	0·8	1·1	21·2	7	—	—	—	0·8	0·3	18·1	26	—	—	0·8	1·5	20·4
Other injuries	18	—	—	0·8	1·0	21·1	2	—	—	—	0·2	0·0	5·0	20	—	—	0·6	1·1	19·5
TOTAL—HEAD AND NECK	272	20	2	11·7	12·0	16·1	58	4	8	—	6·6	3·7	23·3	330	24	2	10·3	15·7	17·4

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(ii) Trunk:																			
Contusions and wounds..	52	2	1	2·2	1·7	12·2	25	—	—	—	2·8	1·1	15·9	77	2	1	2·4	2·8	13·4
Gunshot wounds.. ..	—	—	—	—	—	—	2	1	1	—	0·2	0·6	110·0	2	1	—	0·1	0·6	110·0
Fractures	14	2	1	0·6	1·5	37·8	9	4	—	—	1·0	0·3	13·1	23	6	1	0·7	1·8	28·1
Other injuries	14	—	—	0·6	0·3	8·9	8	—	—	—	0·9	0·2	9·1	22	—	—	0·7	0·5	9·0
TOTAL—TRUNK	80	4	2	3·4	3·5	16·1	44	5	1	—	5·0	2·2	18·4	124	9	2	3·9	5·7	16·9
(iii) Upper Extremity:																			
Contusions and wounds..	89	—	1	3·8	4·0	16·3	39	—	—	—	4·4	1·6	15·3	128	—	1	4·0	5·6	16·0
Burns and scalds ..	9	—	—	0·4	0·4	16·0	11	—	—	—	1·2	0·2	7·3	20	—	—	0·6	0·6	11·2
Fractures..	126	—	1	5·4	11·1	32·1	52	—	—	—	5·9	3·6	25·2	178	—	1	5·6	14·7	30·1
Dislocations	22	—	—	0·9	1·6	26·5	7	—	—	—	0·8	0·3	13·7	29	—	—	0·9	1·9	23·4
Sprains	22	—	—	0·9	0·7	11·5	10	—	—	—	1·1	0·2	6·8	32	—	—	1·0	0·9	10·0
Other injuries	13	—	—	0·6	0·7	20·8	2	—	—	—	0·2	0·1	26·0	15	—	—	0·5	0·9	21·5
TOTAL—UPPER EXTREMITY	281	—	2	12·1	18·5	24·0	121	—	—	—	13·7	6·0	18·2	402	—	2	12·6	24·5	22·2
(iv) Total—Hand and Wrist	111	—	—	4·8	5·9	19·3	45	—	—	—	5·1	2·1	17·0	156	—	—	4·9	8·0	18·6
(v) Total—Rest of Limb	170	—	2	7·3	12·6	27·1	76	—	—	—	8·6	3·9	18·9	246	—	2	7·7	16·5	24·5
(vi) Lower Extremity:																			
Contusions and wounds..	166	—	1	7·2	5·4	11·9	100	—	—	—	11·4	2·8	10·3	266	—	1	8·3	8·2	11·3
Gunshot wounds.. ..	1	—	—	0·0	0·2	72·0	3	—	—	—	0·3	0·2	21·7	4	—	—	0·1	0·4	34·2
Burns and scalds ..	13	—	—	0·6	1·7	48·2	8	—	—	—	0·9	0·6	25·4	21	—	—	0·7	2·3	39·5
Fractures..	117	—	5	5·0	24·6	76·7	34	—	2	1	3·9	5·2	55·9	151	—	6	4·7	29·8	72·0
Dislocations	3	—	—	0·1	0·4	47·0	3	—	—	—	0·3	0·3	34·7	6	—	—	0·2	0·7	40·8
Sprains	261	—	—	11·3	10·2	14·2	134	—	—	—	15·2	4·2	11·6	395	—	—	12·3	14·4	13·3
Other injuries	258	—	—	11·1	9·7	13·8	120	—	1	—	13·6	4·1	12·4	378	—	—	11·8	13·8	13·3
TOTAL—LOWER EXTREMITY	819	—	6	35·3	52·2	23·3	402	—	3	1	45·6	17·3	15·8	1,221	—	7	38·2	69·6	20·8

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1930.—*continued.*

Disease.	Home. Average strength, 23,191.						Abroad. Average strength, 8,809.							Total Force. Average strength, 32,000.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) TOTAL—FOOT AND ANKLE	306	—	—	13·2	9·2	11·0	155	—	1	—	17·6	4·7	11·1	461	—	—	14·4	13·9	11·0
(viii) TOTAL—KNEE ..	275	—	—	11·9	13·7	18·2	135	—	—	—	15·3	5·0	13·5	410	—	—	12·8	18·7	16·7
(ix) TOTAL—REST OF LIMB..	238	—	6	10·3	29·3	44·9	112	—	2	1	12·7	7·6	24·9	350	—	7	10·9	36·9	38·5
*TOTAL—ALL LOCAL INJURIES	1,452	24	12	62·6	86·2	21·7	625	9	12	1	71·0	29·3	17·1	2,077	33	13	64·9	115·5	20·3
*TOTAL—ALL INJURIES ..	1,667	68	16	71·9	105·1	23·0	725	38	18	1	82·3	35·7	18·0	2,392	106	17	74·8	140·8	21·5
*TOTAL—ALL DISEASES ..	6,419	17	144	276·8	342·9	19·5	4,208	12	103	26	477·8	185·3	16·1	10,627	29	170	332·1	528·2	18·1
*TOTAL—ALL DISABILITIES	8,086	85	160	348·7	448·0	20·2	4,933	50	121	27	560·1	221·0	16·4	13,019	135	187	406·9	669·0	18·8

* Analysed in further detail in table VII.

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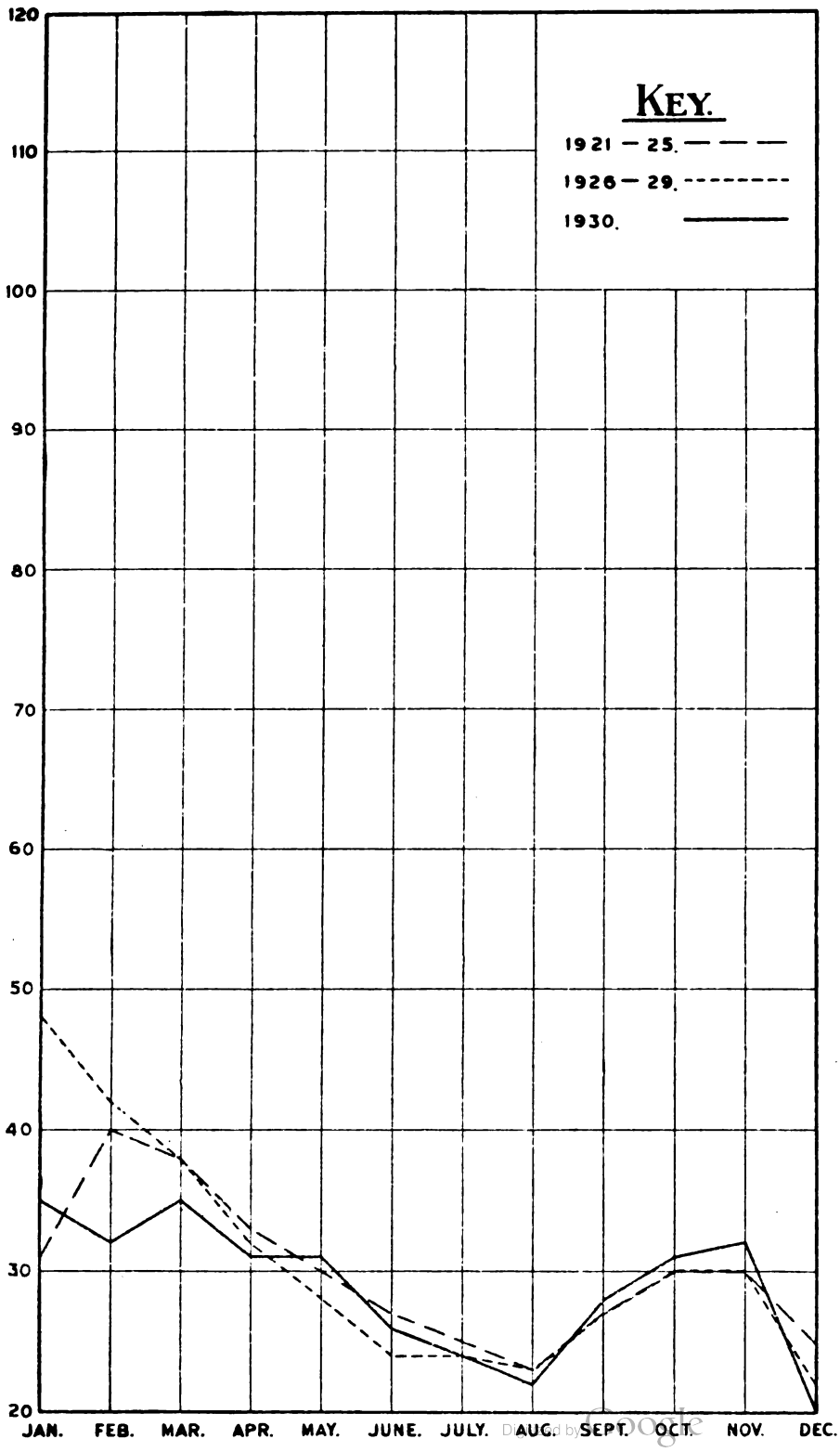
CHART I. SICKNESS AT HOME, 1930.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1930.

General.

33. The incidence of total sickness at home units, excluding the Fleet Air Arm, was 514·3 per 1,000 of strength compared with 626·1 in 1929 and averages over the two earlier periods of 1926–29 and 1921–25 of 595·3 and 839·3 respectively. These figures include both admissions to hospitals or station sick quarters and cases of less than 48 hours duration which were not admitted for treatment. Excluding the latter cases, the admission rate for 1930 was 350·2 per 1,000 compared with 411·7 in 1929 and averages during the two previous periods of 370·1 and 380·2. The number of sick daily was lower in 1930 than in 1929, both including and excluding cases not admitted, and the fall in incidence was due mainly to a decrease in the incidence of influenza and of upper air passage infections—10·6 and 63·6 per 1,000 compared with 57·4 and 82·6 respectively in 1929. The death rate rose from 3·0 per 1,000 in 1929 and averages of 3·4 and 3·2 for the two earlier periods to 3·7 per 1,000 in 1930, but the final invaliding rate dropped to 7·0 per 1,000 from 9·6 in 1929, and averages of 8·3 and 12·9 over the years 1926–29 and 1921–25 respectively.

34. Table XIII, page 35, analyses by age groups those diseases shown in table XII as having been responsible for most of the non-effectiveness during 1930. The table serves also as an analysis in detail of the incidence of disease in age groups given in table V, page 14. In the aircraft apprentice group, under age eighteen, upper air passage infections account for 32 per cent. of all diseases and 29 per cent. of all disabilities; but, as has been shown in earlier reports, the incidence of this type of sickness steadily decreases through the higher age groups. Diseases of the digestive system rank next in producing non-effectiveness in the youngest group and are also more prevalent in it (75 per cent.) than in any group other than that of officers and cadets, which has always shown a very close figure to that of the youngest group of airmen, while the incidence of venereal diseases has always been most evident between the ages of 22 and 27. The groups 20–23 years and officers and cadets always show the highest injury incidence.

35. Table XIV, page 36, shows the distribution of the same diseases as in table XIII over the larger stations which are selected each year as having maintained a strength of 500 or over and

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remain fairly constant, and are in the main comparable from year to year. In 1930, Flower Down dropped out of the stations analysed in 1929, but the remaining stations are unchanged except in slight variations of strength. Excluding Flower Down, in 1929 the highest disability incidence was at Manston, 506·6 per 1,000, and this station again heads the list in 1930 with a total sickness incidence of 463·3 per 1,000, followed by Halton (456·3), Cranwell (406·6), and Grantham (341·3); the order and figures for these last three stations in 1929 were Cranwell (493·5), Halton (459·4), and Grantham (451·3). The decrease at Grantham in 1930 was largely due to a fall in the injury rate, and at Manston and Cranwell to lowered incidences of influenza, and of influenza, upper air passage infections and digestive diseases, respectively. Eastchurch, as in 1929, showed the lowest disability incidence.

Notes on Diseases.

36. *Influenza.*—The incidence at home fell from 57·4 per 1,000 in 1929 to 10·6 in 1930, and the actual number of sick daily out of a slightly increased total strength from 30·6 to 6·1, the average duration per case remaining approximately the same—nine days.

37. *Acute upper air passage infections.*—The incidence of these infections fell from 82·6 to 63·6 per 1,000; the fall was due to decreases in the rates of nasopharyngitis and tonsillitis.

38. *Acute rheumatism.*—There were seventy cases at home compared with seventy-three and eighty respectively in 1929 and 1928. Of these seventy cases, thirty-seven occurred among aircraft apprentices at Halton, three among electrical and wireless apprentices at Cranwell, and two among apprentice clerks at Ruislip. Of the forty-two cases among apprentices, two developed defective lesions of the heart, while thirteen showed signs of defective action of the heart during the attack.

39. *Otitis media.*—The incidence of chronic cases remained practically the same as in 1929 and 1928, but that of acute cases fell to 1·3 per 1,000 from 2·3 in 1929 and compared with 1·2 in 1928.

40. *Venereal disease.*—The incidence for all types has risen from 11·0 per 1,000 in 1929 to 12·6 in 1930 and is mainly due to an increase in gonorrhœa.

41. *Diseases of the skin.*—Three were slight increases in the incidence of impetigo and scabies—8·8 per 1,000 compared with 7·7 in 1929 and 2·8 compared with 2·1, respectively.

42. *Injury.*—The incidence of injury remains very constant within small limits—71·9 in 1930, 72·9 in 1929, and 72·4 in 1928.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	1,959	7·7	176·1	—	8·2	67·4	296·1	555·4	64·3	619·7
18 and 19 ..	3,362	8·6	66·3	3·3	10·7	36·3	161·8	287·0	61·9	348·9
20 and 21 ..	3,482	10·3	72·9	14·9	9·8	39·3	144·7	292·1	99·4	391·4
22 and 23 ..	2,385	8·8	68·8	22·6	12·6	34·8	135·4	283·0	92·7	375·7
24 and 25 ..	2,293	13·1	46·7	21·8	9·6	36·6	113·4	241·2	77·6	318·8
26 and 27 ..	1,928	10·9	53·4	20·7	8·8	30·1	102·7	226·7	65·4	292·0
28 and 29 ..	1,848	10·8	36·3	13·5	11·4	29·2	110·4	211·6	56·8	268·4
30 to 34 ..	2,024	6·4	32·6	15·3	10·9	39·5	89·9	194·7	42·5	237·2
35 to 39 ..	839	13·1	28·6	6·0	7·2	32·2	75·1	162·1	39·3	201·4
40 and over ..	523	13·4	22·9	1·9	17·2	30·6	107·1	193·1	22·9	216·0
Total, airmen ..	20,643	9·8	66·1	13·0	10·3	38·4	141·2	278·9	69·8	348·7
Officers and cadets ..	2,548	16·9	42·8	9·4	14·1	52·2	124·4	259·8	88·7	348·5
Total at home..	23,191	10·6	63·6	12·7	10·7	39·9	139·3	276·8	71·9	348·7

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TABLE XIV.—SICKNESS AT PRINCIPAL STATIONS AT HOME.

Station	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	491	8·1	57·0	8·1	6·1	18·3	79·4	177·2	50·9	228·1
Calshot	561	—	32·1	1·8	3·6	26·7	73·1	137·3	76·6	213·9
Cranwell ..	1,596	5·6	62·7	11·3	6·9	30·1	198·6	315·1	91·5	406·6
Digby	504	11·9	39·7	21·8	6·0	31·7	51·6	162·7	63·5	226·2
Eastchurch ..	543	9·2	29·5	16·6	12·9	16·6	73·7	158·4	36·8	195·2
Gosport ..	526	28·5	45·6	7·6	9·5	32·3	136·9	260·5	49·4	309·9
Grantham ..	545	18·3	47·7	38·5	7·3	40·4	119·3	271·6	69·7	341·3
Halton	3,675	6·0	118·6	2·7	9·5	52·0	217·7	406·5	49·8	456·3
Henlow	1,451	10·3	72·4	11·0	9·6	33·8	115·8	252·9	82·7	335·6
Manston ..	1,144	0·9	113·6	13·1	7·9	49·8	178·3	363·6	99·7	463·3
Netheravon ..	505	21·8	43·6	13·9	17·8	21·8	116·8	235·7	77·2	312·9
Sealand ..	512	17·6	56·6	9·8	15·6	44·9	107·4	252·0	78·1	330·1
Uxbridge ..	1,880	8·0	52·7	6·4	11·2	37·8	155·3	271·3	38·8	310·1
All other stations (including Fleet Air Arm at home)	9,258	13·4	45·5	17·3	12·7	41·9	113·7	244·5	83·0	327·5
Total 1930 ..	23,191	10·6	63·6	12·7	10·7	39·9	139·3	276·8	71·9	348·7
Total 1929 ..	*22,685*	*57·4*	*82·6*	*11·0*	*14·4*	*40·6*	*130·8*	*336·8*	*72·9*	*409·7*
Total 1928 ..	*22,359*	*13·1*	*69·4*	*13·5*	*11·9*	*38·1*	*137·6*	*283·6*	*72·4*	*356·0*

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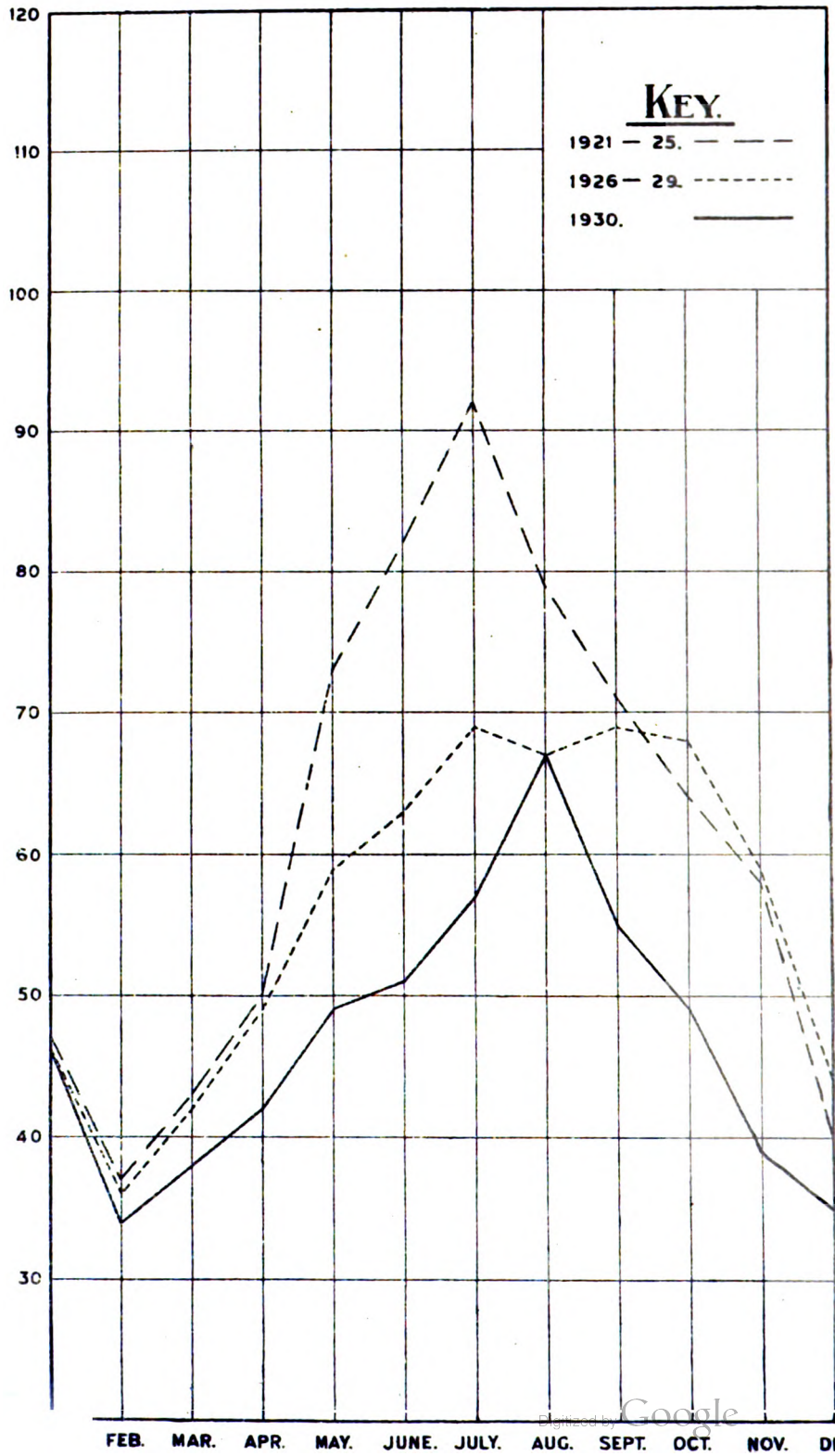
CHART 2. SICKNESS ABROAD, 1930.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1930.

General.

43. The incidence of sickness abroad is analysed in table I, page viii. Excluding cases which were not admitted to hospital or sick quarters, the incidence was 562·4 per 1,000 of strength compared with 604·0 per 1,000 in 1929 and averages of 679·0 and 732·7 for the periods 1926–9 and 1921–5. Including cases of less than 48 hours duration, the incidence in 1930 was 920·8 per 1,000 compared with 1042·6 in 1929 and previous averages of 1207·9 and 1678·8

44. The number of sick daily abroad was 25·2 per 1,000, and the number of days sickness per head 9·2 days, both of which figures compare very favourably with the corresponding figures for previous years.

45. The death rate rose from 4·1 in 1929 to 5·7 per 1,000 in 1930, but the latter rate is below the averages of the two earlier periods, 6·0 and 7·3 per 1,000 respectively; the invaliding rate to the United Kingdom from abroad fell from 18·7 in 1929, and averages of 19·7 and 23·6 per 1,000 for 1926–9 and 1921–5 respectively, to 12·8 in 1930, which is the lowest yet recorded.

46. Table XV, page 40, analyses by age groups certain diseases which were the chief causes of sickness abroad during 1930 and, with the exception of dysentery, malaria and sandfly fever, is comparable with table XIII for the force at home. Upper air passage infections, as at home, show the highest disability rate in each age group with a tendency for the incidence to decrease through successive age groups.

47. Table XVI, page 41, analyses dysentery, malaria and sandfly fever at the principal stations abroad showing the percentage of all diseases attributable to each and their incidence collectively compared with that of all other diseases. In 1930 these diseases accounted for 24 per cent. of all diseases at Karachi, 23·9 per cent. at Hinaidi and 20·8 per cent. at Abu Sueir; in 1929 the corresponding figures were 23·6, 17·6 and 20·2. The increased percentage at Hinaidi was due to increased incidences of sandfly fever from 70 to 84 per 1,000 and malaria from 16 to 20 per 1,000. At Basrah and Shaibah, dysentery, sandfly fever and malaria were the cause of 41 per cent. of all diseases in 1930. The corresponding figures in 1929, 1928 and 1927 were 34·6, 27·5 and 48·6, but in each of these years the small strengths must be borne in mind. The incidence of these three diseases fell at Aboukir from 18·3 per 1,000 in 1929 to 9·9, but rose at Abu Sueir, Hinaidi and Calafrana from 55·2 to 84·1, 97·2 to 110·2, and 51·3 to 89·8 respectively. On the whole, dysentery, sandfly fever and malaria were responsible in 1930 for the same percentage of all diseases as in 1929.

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48. Table XVII, page 42, continues the analysis in table XVI to show the actual number of cases of the three diseases dysentery, sandfly fever and malaria by stations, and differentiates between cases of primary infection and recurrences of malaria and between the various types of dysentery, while in table XVIII these numbers are shown monthly by commands and the incidences of the various types are compared with the corresponding averages of the two earlier periods. In the Mediterranean Littoral and India the figures for 1930, as in previous years, show the bacillary to be much more frequent than the protozoal type of dysentery, while in Iraq the position is reversed.

49. In India the malaria peak was reached in August, 1930, compared with October in 1929, and in Iraq in June or July and in the Mediterranean Littoral in October in both years. The highest figure for sandfly fever occurred in May in Iraq and India, and in August in the Mediterranean Littoral.

50. The incidence of primary dysentery rose in the Mediterranean Littoral from 3·9 per 1,000 in 1929 to 4·2 in 1930, and from 8·6 to 16·3 in India, but fell in Iraq from 11·9 to 9·3. In Iraq and the Mediterranean Littoral there has been a steady decrease in the incidence of dysentery, but in India an equally steady increase. Primary malaria shows a decreased incidence in all commands, while sandfly fever in 1930 was lower than in 1929 in the Mediterranean Littoral but higher, especially in India, in both India and Iraq. Compared with the averages of the two earlier periods, sandfly fever shows a progressively lowered incidence in the Mediterranean Littoral and in Iraq, but a higher rate than in either period in India.

Notes on Diseases.

51. *Enteric group.*—Thirteen cases were reported during 1930 compared with 47 in 1929 and 43 in 1928.

(i) *Typhoid fever.*—Two cases, both in Iraq, were notified compared with five in Iraq, eight in India, two in Aden and one in the Middle East in 1929. B. typhosus was isolated in both cases, and both died.

(ii) *Paratyphoid A.*—One case was reported from India compared with four in India and one in Iraq in 1929. B. paratyphosus A. was isolated from the stools and the case recovered after nineteen days' treatment.

(iii) *Paratyphoid B.*—Three cases were notified, one in Egypt, one in Palestine and one in Malta. B. paratyphosus B. was isolated in one case, while the remaining two showed marked positive rises in the agglutination test. All cases recovered.

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(iv) *Clinical enteric.*—Seven cases were reported, six in India and one in Egypt, compared with eight in India, five in Iraq, three in Egypt and one at Aden in 1929. There were no deaths.

52. *Enteritis and gastro-enteritis.*—The incidence of those cases which were considered neither clinically nor pathologically to belong to the dysentery or enteric group fell to 36·6 per 1,000 from 42·1 in 1929 and 47·3 in 1928. There were no deaths from this cause but one case was invalided to the United Kingdom.

53. *Heat exhaustion, heatstroke and heat hyperpyrexia.*—Forty cases occurred abroad compared with six in 1929, 27 in 1928 and nine in 1927. Thirty cases of heat exhaustion and of heat hyperpyrexia were reported from Iraq, of which two died—one suddenly on removal from prison and one in hospital, where the heat hyperpyrexia developed while under treatment for sandfly fever and was complicated by alcoholism. Eight of the cases in Iraq were teetotallers and thirteen gave no history of exposure. Eighteen cases had less than one year's service in the command and, with two exceptions, all were employed on indoor occupations.

In Iraq the question of heat-effects received special consideration. Biochemical investigation revealed an acidosis, and intravenous medication with 2 per cent. sodium bicarbonate solution in normal saline proved of great benefit. In some instances the improvement in the patient's condition was dramatic.

54. *Psychoneurosis.*—Ten cases were invalided from abroad in 1930 and ten in 1929, but the incidence fell slightly from 4·1 per 1,000 in 1929 to 3·7 in 1930. Three of the cases were finally invalided in 1930 compared with five in 1929.

55. *Upper air passage infections.*—The incidence abroad fell slightly to 76·7 per 1,000 from 78·1 in 1929 and was higher than the home figure of 63·6.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.										
		Dysentery.	Malaria.	Sandfly fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen—												
18 and 19	61	*	*	*	*	*	*	*	*	409·8	49·2	459·0
20 and 21	878	11·4	47·8	68·3	87·7	37·6	14·8	61·5	296·1	625·3	99·1	724·4
22 and 23	2,094	8·6	55·9	64·0	87·9	31·5	10·0	40·1	216·8	514·8	96·0	610·8
24 and 25	1,883	9·0	83·4	53·6	83·4	25·0	15·9	32·4	173·1	475·8	80·7	556·5
26 and 27	880	10·2	75·0	42·0	78·4	23·9	22·7	47·7	177·3	477·3	88·6	565·9
28 and 29	664	—	30·1	43·7	67·8	31·6	13·6	37·7	173·2	397·6	60·2	457·8
30 to 34	867	6·9	49·6	39·2	73·8	26·5	24·2	49·6	154·6	424·5	65·7	490·2
35 to 39	386	2·6	44·0	46·6	49·2	20·7	10·4	41·5	160·6	375·6	64·8	440·4
40 and over	168	*	*	*	*	*	*	*	*	321·4	47·6	369·0
Total, airmen	7,881	8·1	59·1	52·8	79·1	28·0	15·1	42·4	197·4	482·0	82·6	564·6
Total, officers	928	15·1	47·4	46·3	57·1	3·2	12·9	73·3	186·4	441·8	79·7	521·5
Total, abroad 1930	8,809	8·8	57·9	52·1	76·7	25·4	14·9	45·6	196·3	477·8	82·3	560·1
Total, abroad 1929	*8,474*	*7·7*	*74·2*	*49·6*	*78·1*	*25·5*	*16·3*	*39·8*	*216·0*	*507·1*	*86·6*	*593·7*
Total, abroad 1928	*8,111*	*8·8*	*64·2*	*62·3*	*80·1*	*31·3*	*17·9*	*45·9*	*226·5*	*536·9*	*97·4*	*634·3*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD.

Command and station.	Average strength	Number of cases.						Percentage of total number of cases of disease at stations.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Dysentery, malaria and sandfly fever.	All other diseases.	All diseases.
Egypt.															
Aboukir ..	808	—	3	5	8	231	239	—	1·2	2·1	3·3	96·7	9·9	285·9	295·8
Abu Sueir ..	464	—	31	8	39	149	188	—	16·5	4·3	20·8	79·2	84·1	321·1	405·2
Cairo and Heliopolis	594	—	10	4	14	186	200	—	5·0	2·0	7·0	93·0	23·6	313·1	336·7
Aden.															
Aden and Khormaksar	406	9	12	10	31	182	213	4·2	5·6	4·7	14.5	85·5	76.4	448·2	524·6
Iraq.															
Hinaidi ..	1,551	10	31	130	171	545	716	1·4	4·3	18·2	23·9	76·1	110·2	351·4	461·6
Basrah and Shaibah	389	11	82	39	132	189	321	3.4	25.5	12·1	41·0	59·0	339·3	485.9	825·2
India.															
Karachi ..	736	17	36	28	81	257	338	5·0	10·7	8·3	24·0	76·0	110·1	349·1	459·2
Mediterranean.															
Calafrana ..	334	—	2	28	30	143	173	—	1·2	16·2	17·4	82·6	89·8	428·2	518·0

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TABLE XVII.—DYSENTERY, MALARIA AND SANDFLY FEVER AT STATIONS ABROAD.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Sandfly fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aboukir ..	808	—	—	—	—	—	—	—	—	2	3	5
Abu Sueir ..	464	—	—	—	—	—	—	—	—	17	31	8
Aden ..	406	5	5	4	4	—	—	9	9	10	12	10
Amman ..	210	—	—	2	2	4	4	6	6	—	1	11
Cairo and Heliopolis	594	—	—	—	—	—	—	—	—	6	10	4
Calafrana ..	334	—	—	—	—	—	—	—	—	1	2	28
Helouan ..	174	—	—	1	1	—	—	1	1	1	3	20
Ismailia ..	177	—	—	—	—	—	—	—	—	4	5	2
Khartoum ..	187	—	—	1	1	—	—	1	1	15	20	9
Ramleh ..	224	—	—	—	—	—	1	—	1	2	3	4
Various small stations and drafts *en route* ..	456	—	—	—	—	—	—	—	—	1	5	5
Total ..	4,034	5	5	8	8	4	5	17	18	59	95	106
India.												
Ambala ..	116	—	—	1	1	—	—	1	1	3	5	12
Karachi ..	736	1	1	14	16	—	—	15	17	15	36	28
Kohat ..	305	—	1	1	1	—	—	1	2	51	114	42
Lahore ..	156	—	—	—	—	—	—	—	—	14	26	11
Peshawar ..	160	—	1	2	2	—	—	2	3	8	17	38
Quetta ..	226	1	1	2	2	—	—	3	3	11	22	1
Risalpur ..	266	4	4	1	1	—	—	5	5	15	50	16
Various small stations ..	120	1	1	3	3	3	3	7	7	10	23	4
Total ..	2,085	7	9	24	26	3	3	34	38	127	293	152
Iraq.												
Basrah ..	208	—	—	—	—	7	7	7	7	54	75	18
Hinaidi ..	1,551	—	—	5	5	4	5	9	10	13	31	130
Mosul ..	216	—	—	—	—	—	—	—	—	5	7	18
Shaibah ..	181	—	—	—	—	4	4	4	4	6	7	21
Total ..	2,156	—	—	5	5	15	16	20	21	78	120	187
Fleet Air Arm abroad ..	358	—	—	1	1	—	—	1	1	—	—	14
Far East ..	176	—	—	—	—	—	—	—	—	1	2	—
TOTAL all units abroad ..	8,809	12	14	38	40	22	24	72	78	265	510	459

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TABLE XVIII.—DYSENTERY, MALARIA, AND SANDFLY FEVER ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery.						Malaria.						Sandfly fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	4	4	—	—	—	1	2	3	3	8	2	4	—	—	—
February	1	1	1	1	—	—	3	5	1	3	—	6	—	—	—
March	1	2	—	—	—	—	1	4	2	8	—	6	2	9	—
April	3	3	3	3	1	1	7	8	7	12	3	5	5	25	20
May	—	—	4	4	7	7	1	9	4	13	9	13	5	26	40
June	—	—	2	2	2	2	8	13	10	23	17	22	11	22	23
July	3	3	7	7	2	2	4	9	12	35	13	16	17	22	22
August	—	—	7	8	4	4	6	10	29	59	9	14	30	25	31
September ..	—	—	2	2	1	1	9	10	25	51	6	10	25	15	30
October	1	1	1	2	—	—	10	14	18	38	7	7	7	4	18
November	3	3	4	4	3	3	5	7	10	33	7	11	2	2	3
December	1	1	3	5	—	—	3	3	6	10	5	6	2	2	—
1930 Total ..	17	18	34	38	20	21	59	95	127	293	78	120	106	152	187
Case incidence per 1,000 of strength															
1930	4·2	4·5	16·3	18·2	9·3	9·7	14·6	23·5	60·9	140·5	36·2	55·7	26·3	72·9	86·7
1926–1929 ..	*6·1*	*7·2*	*10·9*	*12·9*	*14·8*	*16·7*	*25·8*	*50·6*	*115·0*	*235·8*	*47·3*	*98·7*	*35·9*	*49·0*	*127·6*
1921–1925 ..	*9·6*	*12·0*	*11·4*	*19·6*	*34·0*	*41·4*	*10·0*	*25·2*	*103·8*	*240·0*	*53·7*	*116·2*	*61·8*	*68·6*	*258·3*

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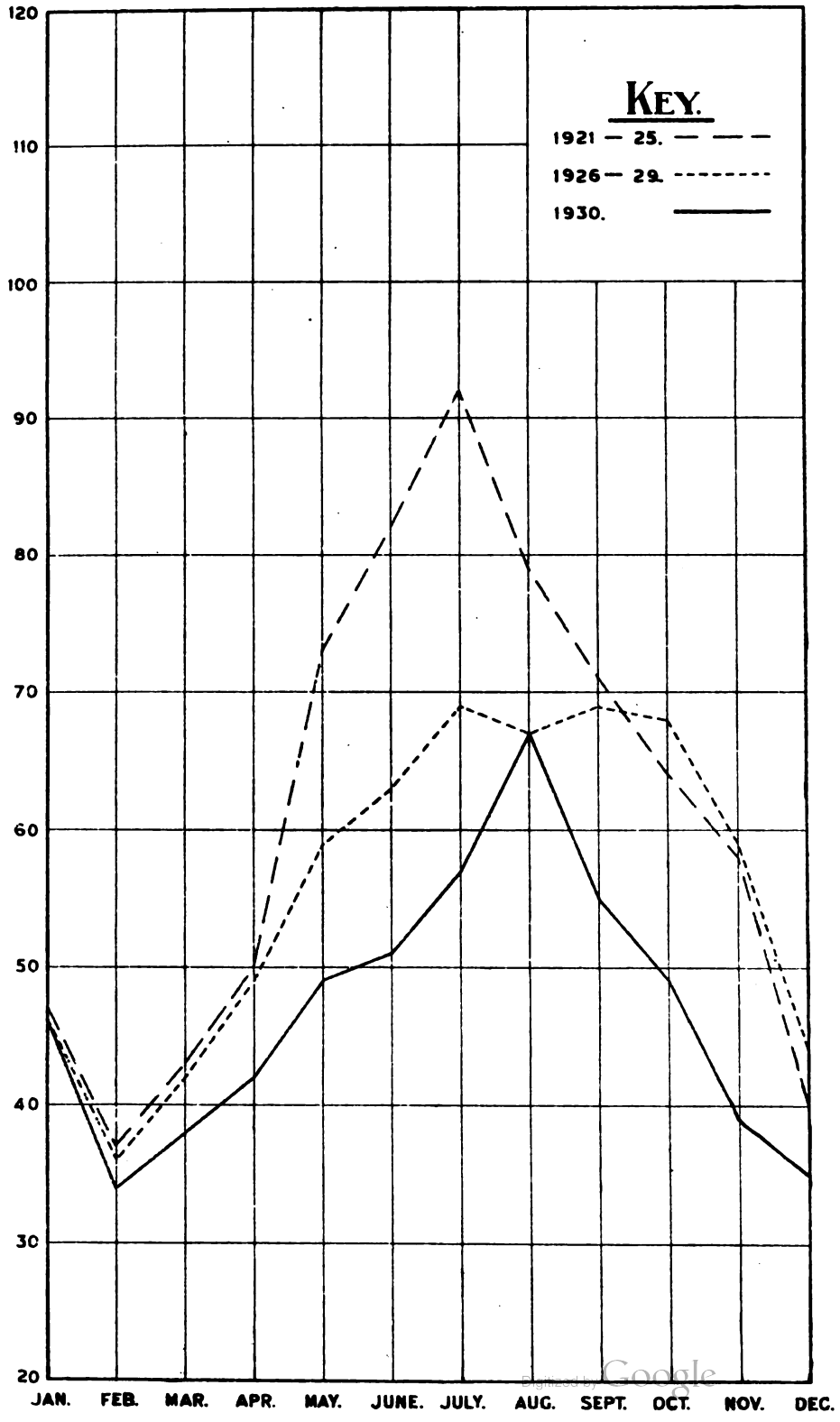
CHART 2. SICKNESS ABROAD, 1930.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1930.

General.

43. The incidence of sickness abroad is analysed in table I, page viii. Excluding cases which were not admitted to hospital or sick quarters, the incidence was 562·4 per 1,000 of strength compared with 604·0 per 1,000 in 1929 and averages of 679·0 and 732·7 for the periods 1926–9 and 1921–5. Including cases of less than 48 hours duration, the incidence in 1930 was 920·8 per 1,000 compared with 1042·6 in 1929 and previous averages of 1207·9 and 1678·8

44. The number of sick daily abroad was 25·2 per 1,000, and the number of days sickness per head 9·2 days, both of which figures compare very favourably with the corresponding figures for previous years.

45. The death rate rose from 4·1 in 1929 to 5·7 per 1,000 in 1930, but the latter rate is below the averages of the two earlier periods, 6·0 and 7·3 per 1,000 respectively; the invaliding rate to the United Kingdom from abroad fell from 18·7 in 1929, and averages of 19·7 and 23·6 per 1,000 for 1926–9 and 1921–5 respectively, to 12·8 in 1930, which is the lowest yet recorded.

46. Table XV, page 40, analyses by age groups certain diseases which were the chief causes of sickness abroad during 1930 and, with the exception of dysentery, malaria and sandfly fever, is comparable with table XIII for the force at home. Upper air passage infections, as at home, show the highest disability rate in each age group with a tendency for the incidence to decrease through successive age groups.

47. Table XVI, page 41, analyses dysentery, malaria and sandfly fever at the principal stations abroad showing the percentage of all diseases attributable to each and their incidence collectively compared with that of all other diseases. In 1930 these diseases accounted for 24 per cent. of all diseases at Karachi, 23·9 per cent. at Hinaidi and 20·8 per cent. at Abu Sueir; in 1929 the corresponding figures were 23·6, 17·6 and 20·2. The increased percentage at Hinaidi was due to increased incidences of sandfly fever from 70 to 84 per 1,000 and malaria from 16 to 20 per 1,000. At Basrah and Shaibah, dysentery, sandfly fever and malaria were the cause of 41 per cent. of all diseases in 1930. The corresponding figures in 1929, 1928 and 1927 were 34·6, 27·5 and 48·6, but in each of these years the small strengths must be borne in mind. The incidence of these three diseases fell at Aboukir from 18·3 per 1,000 in 1929 to 9·9, but rose at Abu Sueir, Hinaidi and Calafrana from 55·2 to 84·1, 97·2 to 110·2, and 51·3 to 89·8 respectively. On the whole, dysentery, sandfly fever and malaria were responsible in 1930 for the same percentage of all diseases as in 1929.

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48. Table XVII, page 42, continues the analysis in table XVI to show the actual number of cases of the three diseases dysentery, sandfly fever and malaria by stations, and differentiates between cases of primary infection and recurrences of malaria and between the various types of dysentery, while in table XVIII these numbers are shown monthly by commands and the incidences of the various types are compared with the corresponding averages of the two earlier periods. In the Mediterranean Littoral and India the figures for 1930, as in previous years, show the bacillary to be much more frequent than the protozoal type of dysentery, while in Iraq the position is reversed.

49. In India the malaria peak was reached in August, 1930, compared with October in 1929, and in Iraq in June or July and in the Mediterranean Littoral in October in both years. The highest figure for sandfly fever occurred in May in Iraq and India, and in August in the Mediterranean Littoral.

50. The incidence of primary dysentery rose in the Mediterranean Littoral from 3·9 per 1,000 in 1929 to 4·2 in 1930, and from 8·6 to 16·3 in India, but fell in Iraq from 11·9 to 9·3. In Iraq and the Mediterranean Littoral there has been a steady decrease in the incidence of dysentery, but in India an equally steady increase. Primary malaria shows a decreased incidence in all commands, while sandfly fever in 1930 was lower than in 1929 in the Mediterranean Littoral but higher, especially in India, in both India and Iraq. Compared with the averages of the two earlier periods, sandfly fever shows a progressively lowered incidence in the Mediterranean Littoral and in Iraq, but a higher rate than in either period in India.

Notes on Diseases.

51. *Enteric group.*—Thirteen cases were reported during 1930 compared with 47 in 1929 and 43 in 1928.

(i) *Typhoid fever.*—Two cases, both in Iraq, were notified compared with five in Iraq, eight in India, two in Aden and one in the Middle East in 1929. B. typhosus was isolated in both cases, and both died.

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40 and over	168	*	*	*	*	*	*	*	*	321·4	47·6	369·0
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* Not calculated.

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Command and station.	Average strength	Number of cases.						Percentage of total number of cases of disease at stations.					Case incidence per 1,000 of strength.		
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Egypt.															
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Abu Sueir ..	464	—	31	8	39	149	188	—	16·5	4·3	20·8	79·2	84·1	321·1	405·2
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Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Sandfly fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aboukir ..	808	—	—	—	—	—	—	—	—	2	3	5
Abu Sueir ..	464	—	—	—	—	—	—	—	—	17	31	8
Aden ..	406	5	5	4	4	—	—	9	9	10	12	10
Amman ..	210	—	—	2	2	4	4	6	6	—	1	11
Cairo and Heliopolis	594	—	—	—	—	—	—	—	—	6	10	4
Calafrana ..	334	—	—	—	—	—	—	—	—	1	2	28
Helouan ..	174	—	—	1	1	—	—	1	1	1	3	20
Ismailia ..	177	—	—	—	—	—	—	—	—	4	5	2
Khartoum ..	187	—	—	1	1	—	—	1	1	15	20	9
Ramleh ..	224	—	—	—	—	—	1	—	1	2	3	4
Various small stations and drafts *en route* ..	456	—	—	—	—	—	—	—	—	1	5	5
Total ..	4,034	5	5	8	8	4	5	17	18	59	95	106
India.												
Ambala ..	116	—	—	1	1	—	—	1	1	3	5	12
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Kohat ..	305	—	1	1	1	—	—	1	2	51	114	42
Lahore ..	156	—	—	—	—	—	—	—	—	14	26	11
Peshawar ..	160	—	1	2	2	—	—	2	3	8	17	38
Quetta ..	226	1	1	2	2	—	—	3	3	11	22	1
Risalpur ..	266	4	4	1	1	—	—	5	5	15	50	16
Various small stations ..	120	1	1	3	3	3	3	7	7	10	23	4
Total ..	2,085	7	9	24	26	3	3	34	38	127	293	152
Iraq.												
Basrah ..	208	—	—	—	—	7	7	7	7	54	75	18
Hinaidi ..	1,551	—	—	5	5	4	5	9	10	13	31	130
Mosul ..	216	—	—	—	—	—	—	—	—	5	7	18
Shaibah ..	181	—	—	—	—	4	4	4	4	6	7	21
Total ..	2,156	—	—	5	5	15	16	20	21	78	120	187
Fleet Air Arm abroad ..	358	—	—	1	1	—	—	1	1	—	—	14
Far East ..	176	—	—	—	—	—	—	—	—	1	2	—
TOTAL all units abroad ..	8,809	12	14	38	40	22	24	72	78	265	510	459

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TABLE XVIII.—DYSENTERY, MALARIA, AND SANDFLY FEVER ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery.						Malaria.						Sandfly fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	4	4	—	—	—	1	2	3	3	8	2	4	—	—	—
February	1	1	1	1	—	—	3	5	1	3	—	6	—	—	—
March	1	2	—	—	—	—	1	4	2	8	—	6	2	9	—
April	3	3	3	3	1	1	7	8	7	12	3	5	5	25	20
May	—	—	4	4	7	7	1	9	4	13	9	13	5	26	40
June	—	—	2	2	2	2	8	13	10	23	17	22	11	22	23
July	3	3	7	7	2	2	4	9	12	35	13	16	17	22	22
August	—	—	7	8	4	4	6	10	29	59	9	14	30	25	31
September ..	—	—	2	2	1	1	9	10	25	51	6	10	25	15	30
October	1	1	1	2	—	—	10	14	18	38	7	7	7	4	18
November	3	3	4	4	3	3	5	7	10	33	7	11	2	2	3
December	1	1	3	5	—	—	3	3	6	10	5	6	2	2	—
1930 Total ..	17	18	34	38	20	21	59	95	127	293	78	120	106	152	187
Case incidence per 1,000 of strength															
1930	4·2	4·5	16·3	18·2	9·3	9·7	14·6	23·5	60·9	140·5	36·2	55·7	26·3	72·9	86·7
1926–1929 ..	*6·1*	*7·2*	*10·9*	*12·9*	*14·8*	*16·7*	*25·8*	*50·6*	*115·0*	*235·8*	*47·3*	*98·7*	*35·9*	*49·0*	*127·6*
1921–1925 ..	*9·6*	*12·0*	*11·4*	*19·6*	*34·0*	*41·4*	*10·0*	*25·2*	*103·8*	*240·0*	*53·7*	*116·2*	*61·8*	*68·6*	*258·3*

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CHAPTER IV.—MISCELLANEOUS.

The Central Medical Establishment.

56. Six hundred and eighty-five candidates for commissions in the general duties branch were examined, of whom 432—63 per cent.—were finally accepted, compared with 58 per cent. in 1929. Two hundred and seventeen were finally and 36 temporarily rejected as unfit. An analysis of these examinations is given in table XIX, and the causes of rejection at all examinations carried out at the Central Medical Establishment, which include the candidates analysed in table XIX, are shown in table XXI. Defective vision continues to be the most frequent cause of rejection—32 per cent. compared with 31 per cent. in 1929.

57. In table XX the average results of the physical efficiency tests and measurements of all candidates accepted are shown for 1930, 1929 and for the period 1925–1929.

58. Short courses of instruction in the routine procedure of medical examinations in the Royal Air Force were given to a number of newly-joined medical officers from the Medical Training Depôt. Day visits were also paid by several medical officers from foreign states who were interested in British methods of examination.

59. The electrocardiograph and orthodiagraph have continued to be valuable accessories in the assessment of cardio-vascular efficiency, and a considerable amount of interesting data has been obtained and will be published in due course.

60. A series of observations on the effects of the administration of oxygen in the performance of mental and physical tasks have been made in the low-pressure chamber at the Royal Aircraft Establishment, Farnborough. The tests were carried out at an altitude of 18,000 ft. without oxygen and then repeated with oxygen, and the results compared. The data obtained and conclusions to be drawn are at present under consideration.

Physical Efficiency of Serving Officers and Airman Pilots of the Royal Air Force.

61. Three thousand six hundred and seventy-seven officers and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches in 1930. Of 2,180 officers of the general duties branch, 2,018 (93 per cent.) were found fit for flying duty, that is to say, acting as pilots of aircraft, and the results of their responses to the standard tests are analysed in tables XXIII and XXIV. Four hundred and

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five out of 413 airman pilots (98 per cent.) were fit for their full duties and the results of the standard tests in their case also are analysed in tables XXIII and XXIV. Of 290 officers of the general duties branch who, for reasons of age or rank, were not liable to flying duty, 194 (67 per cent.) were shown to be fit, nevertheless, for such duty, while of 794 officers of the ancillary services 743 (94 per cent.) were found to be fit for the full duties of their respective branches.

62. Of the 2,180 officers referred to in the previous paragraph who were liable to flying duty, 1,343 were, in accordance with their terms of service, held liable to flying duties without any restriction, and of these 1,265 (94 per cent.) were found to be fit for such duty ; of the remaining 837 who, although liable to flying duty, were for reasons of age only expected to reach a medical standard which may limit the duration and altitude of their flying and the extent of aerobatics in which they may indulge, 726 (87 per cent.) were considered to be fit for flying without any restriction and 27 as up to their required standard. The percentage of this latter group (837) who were fit for flying duties was 90 compared with 93 for the total number liable to flying duties. Of the 194 officers who, though not liable, were classed fit for flying duties, 160 (83 per cent.) were considered fit, with no limitations, to pilot aircraft.

63. Table XXV shows the reasons of unfitness of the 162 officers shown as unfit in table XXII, and the same three causes in the same order head the list as did so in 1929. Defective vision, which in 1925 was the most frequent cause of unfitness, dropped to second place in 1926 and to third for the last four years.

64. Table XXIV analyses the average results of the physical efficiency tests by age groups. There is very little to choose between the average efficiency of officers and airman pilots as evidenced by the results of these tests.

65. In table XXIII those physical tests were selected for analysis which were capable of being reduced for practical purposes to positive and negative, and the percentage results of each, throughout the fit and unfit, calculated in order to endeavour to correlate the results of individual tests with the final assessment. It would not appear from the result of this analysis that this section of the physical efficiency tests played any part in determining the final assessment, but that the factor or factors responsible are to be found in the tests analysed in table XXIV and pertain to the cardio-vascular system.

Medical Examination of Recruits.

66. Two thousand seven hundred and ninety-three out of 7,031 candidates for enlistment—40 per cent.—were accepted as medically fit, the same percentage as in 1929 One thousand and

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thirteen aircraft apprentices were attested at Halton and 108 apprentice clerks at Ruislip, making with 1,798 attested recruits out of the 2,793 found medically fit, a total intake for 1930 of 2,919 compared with 3,314 in 1929. Table XXVI analyses the numbers finally rejected on medical grounds by cause and place of examination and shows in addition the rate per 1,000 of each cause of rejection.

67. The medical examination of recruits is carried out at the London Recruiting Depôt, a few R.A.F. stations and by civilian medical practitioners in the provinces. The civilian practitioners, of whom an average of 87 are employed monthly, weed out unsuitable candidates and refer those considered to be fit or on the border-line to the London Depôt for final examination. The total number of candidates examined at the London Recruiting Depôt during 1930 was 3,828, of whom 2,011 were found fit and 1,703 were finally and 114 temporarily rejected. Sixty-three of the temporarily unfit candidates presented themselves for re-examination and with two exceptions were accepted. Of the 2,011 passed as fit in the first instance, 1,431 were protected against smallpox and 166 had apparently perfect teeth.

Hygiene.

68. *Malaria.*—The mosquito-proofing of Karachi was completed early in 1930, the greater part of the work having been finished during 1929. That of Kohat was completed in 1930 before the advent of the mosquito season. The incidence of malaria in India during 1930 was lower than in 1929, but when compared with that for 1928, which was the lowest ever recorded for the Royal Air Force in India, the only station where the incidence was lower in 1930 was Karachi, while at Kohat the incidence very closely approximated to that of 1928. These are the only two stations in the command where mosquito-proofing has been adopted as a prophylactic measure.

In Aden, both in the Peninsula and Protectorate, a malaria survey was carried out. This was considered necessary owing to a number of cases of malaria having occurred recently amongst R.A.F. personnel serving in the Aden Command. Special attention was directed to places where troops were likely to operate—aeroplane landing grounds, the routes up the wadies into the interior and probable camping grounds. Anophelines were found at Sheikh Othman, 9 miles distant from Aden and along the course of many of the wadies (W. Tiban, W. Hardaba, W. Hasan) in the Protectorate, especially in the regions of El Khudad, Zeida, Shuka, Nobat Dakhim, Jol Madram, Musemir Dahla, As Sauda, and Al Massana where the splenic index ranged between 50 and 70, and where malignant and benign tertian malaria were found to be prevalent, especially in the rainy season.

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Aeroplane landing grounds have therefore been established at carefully chosen sites as regards distance from villages and cultivation.

69. *Venereal disease.*—In June, 1930, for the purpose of experiment a trained orderly was detailed to carry out the treatment at early treatment centres in Hinaidi, Baghdad, Mosul and Basrah instead of leaving it to the individual concerned. The system remained entirely voluntary as heretofore, but each person after treatment received a slip of paper bearing a serial number corresponding to a duplicate retained at the centre and was requested to produce this if reporting sick subsequently with any form of venereal disease. The results show that 1·9 per cent. of those treated developed some form of venereal disease—0·6 per cent. syphilis, 0·2 per cent. gonorrhœa, and 1·0 per cent. chancroid; that is to say, only 0·9 per cent. developed the more serious type of disease. The experiment is continuing.

70. *Beri-beri.*—No cases of beri-beri have occurred during 1930.

71. *Water.*—The new water supply at Aden described in the report for 1929 has continued to prove of excellent quality. Pipe lines have been laid to the storage tanks and thence to the units supplied, and when these come into operation in a few months' time the risks of contamination by carriage in water boats, camel carts, etc., will be eliminated.

Hygiene Section, R.A.F. Depot.

72. The number of miniature and full-sized models in this section is 101, and during the year a steam-proof chamber for epidemic cerebro-spinal meningitis was erected by the staff of the section.

73. During the year, 97 hospital orderlies under training attended a course prior to proceeding to the training depôt at Halton, and one nursing orderly underwent a course for re-mustering to sanitary assistant. Thirty-four aircrafthands were given courses of lectures and demonstrations of from two to six weeks' duration on selection for sanitary duties in training camps, and more than 200 short service commission officers undergoing their preliminary training at the depôt received instruction in simple methods of camp sanitation, water purification, general hygiene and the preservation of health in the tropics. Officers due for promotion examinations and drafts for abroad attended this section in parties for demonstrations of models. The total number of R.A.F. personnel who received instruction at the section during the year was :—Officers, 187; airmen, 881.

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Princess Mary's Royal Air Force Nursing Service.

74. The average strength of this branch in 1930 was 97. Twenty-seven members—23 at home and four abroad—were admitted to hospital and were responsible for 863 days' sickness or an average of 8·9 days per member, compared with 7·8 days in 1929 and 6·6 days in 1928. The number of sick daily rose slightly from 2·0 in 1929 to 2·3 in 1930. There were no deaths. One member was invalided from abroad to the United Kingdom.

Transfer of Casualties by Air.

75. In Iraq, 55 cases were evacuated over a total distance of 9,182 miles in 32 trips, and in Palestine 36 cases over 3,307 miles in 32 trips. Of the 32 trips carrying patients in each of these countries, eleven in Iraq and twelve in Palestine, were special trips at the request of the local medical authorities, the remainder being routine communication flights.

Royal Air Force Reserve of Officers.

76. One hundred and eight candidates for the Reserve of Officers were examined at the Central Medical Establishment during 1930, of whom 81 were accepted as medically fit—75 per cent. compared with 68 per cent. in 1929 and 72 per cent. in 1928. The causes of rejection of the unsuccessful candidates, both temporarily and finally, are shown in table XXI.

77. Excluding members of the university air squadrons, of whom 31 were examined at R.A.F. stations, the total number of officers of the reserve for whom it was found possible to complete an annual medical examination was 196 compared with 128 in 1929. Of these 196 officers, 55 per cent. were found to be above the average, 34 per cent. average and 11 per cent. below the average in the 40 millimetre test, while in the tests for convergence and ocular muscle balance, 71 per cent. were marked " very good," 18 per cent. " good ", 8 per cent. " fair " and 3 per cent. " poor ". The standard on which these markings were based was the efficiency index in use at the Central Medical Establishment and the results are considered to be very satisfactory.

78. In all, 623 officers were under training during the year, and the total number of cases of sickness reported was fourteen, representing 87 days' sickness, an incidence of 22·5 per 1,000 compared with incidences of 24·6 and 42·6 in 1929 and 1928 respectively. There were eighteen flying accidents during training, twelve of which resulted in no injury to the occupants of the aircraft. Of the remainder, three cases were admitted to hospital for a total period of eighteen days, and three sustained only minor injuries which did not necessitate in-patient treatment. There were no deaths from flying accidents.

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Dental Treatment.

79. The Royal Air Force dental branch was formed on 1st July, 1930, prior to which date the Army Dental Corps constituted a joint service for the Army and Royal Air Force. The present establishment consists of 27 officers and forty other ranks.

80. During the year the total amount of treatment completed has been satisfactorily maintained and a marked improvement generally has been noted in regard to oral hygiene throughout the service; moreover, there is a greater inclination on the part of personnel to apply voluntarily for examination, thus, in many instances enabling teeth to be conserved which would otherwise require extraction.

81. The recently established dental radiological department at Uxbridge has rendered valuable assistance in the diagnosis and treatment of dental disease.

82. Due attention has been given to the modernisation of equipment at all stations.

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Table XIX.—Results of 850 Examinations at the Central Medical Establishment on 685 Candidates for Flying Duties.

Class of candidate.	Number accepted	Number rejected.		Total.	Percentage accepted.
		Finally	Temporarily.		
Cadets	92	42	4	138	*67*
Airman pilots	52	15	2	69	*75*
Short service commissions	240	154	29	423	*57*
Fleet Air Arm	31	4	—	35	*89*
Secondments from Army	5	—	1	6	*83*
Permanent commissions (nominations).. ..	12	2	—	14	*86*
Total	432	217	36	685	*63*

Table XX.—Candidates for Flying Duties.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Average results of tests.	Unit of measurement.	All classes of candidates (numbers accepted in each period are shown in brackets).		
		1925–29 (2,033)	1929 (494)	1930 (406)
Standing height ..	Cms.	175·3	175·6	175·5
Weight	Kgs.	64·4	65·4	65·4
Chest	Cms.	86·8	85·7	86·3
Vital capacity	Cc.	4,921	4,859	4,991
Breath-holding	Seconds.	78·8	76·8	82·2
Expiratory force ..	Mm. Hg.	139·5	139·1	134·1
Fatigue test	Seconds.	65·8	68·3	69·4
Systolic pressure ..	Mm. Hg.	129·9	130·6	131·1
Diastolic pressure ..	Mm. Hg.	79·0	78·1	78·1
Pulse rate :—				
Sitting	Per min.	72·1	73·2	71·9
Standing	Per min.	79·9	82·9	81·7
After exercise ..	Per min.	104·8	105·7	105·5
Time taken to return to normal.	Seconds.	29·9	31·1	32·7

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TABLE XXI.—CAUSES OF REJECTION BY THE CENTRAL MEDICAL ESTABLISHMENT.

Class of candidate.	(1) Vision.		(2) Ear, nose, throat and teeth.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1), (2), (3), with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	—	11	5	—	4	20	—	1	—	5	9	37
Short service commissions ..	3	44	2	1	16	22	4	57	4	34	29	158
Cadets	—	12	—	—	4	11	—	14	—	5	4	42
Reserves	1	12	—	—	1	7	3	1	—	2	5	22
Airman pilots ..	—	7	2	—	—	3	—	4	—	1	2	15
Auxiliary Air Force	—	1	1	—	—	1	—	—	1	—	2	2
Fleet Air Arm ..	—	2	—	—	—	2	—	—	—	—	—	4
Casuals	2	7	1	1	3	2	1	5	—	2	7	17
Secondments to R.A.F.	—	—	1	—	—	—	—	—	—	—	1	—
Total ..	6	96	12	2	28	68	8	82	5	49	59	297

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TABLE XXII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE TO FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1930	1,457	137	1,594	91
	1929	*1,424*	*201*	*1,625*	*88*
	1928	*1,330*	*205*	*1,535*	*87*
	1927	*1,308*	*188*	*1,496*	*87*
	1926	*1,375*	*191*	*1,566*	*88*
	1925	*1,401*	*154*	*1,555*	*90*
	1924	*1,384*	*168*	*1,552*	*89*
	1923	*1,330*	*196*	*1,526*	*87*
	1922	*1,181*	*173*	*1,354*	*87*
Abroad	1930	561	25	586	96
	1929	*586*	*39*	*625*	*94*
	1928	*517*	*48*	*565*	*92*
	1927	*519*	*56*	*575*	*90*
	1926	*593*	*57*	*650*	*91*
	1925	*665*	*52*	*717*	*93*
	1924	*672*	*60*	*732*	*92*
	1923	*616*	*85*	*701*	*88*
	1922	*638*	*104*	*742*	*86*
Total	1930	2,018	162	2,180	93
	1929	*2,010*	*240*	*2,250*	*89*
	1928	*1,847*	*253*	*2,100*	*88*
	1927	*1,827*	*244*	*2,071*	*88*
	1926	*1,968*	*248*	*2,216*	*89*
	1925	*2,066*	*206*	*2,272*	*91*
	1924	*2,056*	*228*	*2,284*	*90*
	1923	*1,946*	*281*	*2,227*	*87*
	1922	*1,819*	*277*	*2,096*	*87*

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TABLE XXIII.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH AND AIRMAN PILOTS.

Nature of test.	Officers.						Airman pilots, 413.		Total officers and airman pilots, 2,593.	
	Fit for flying duties, 2,018.		Unfit for flying duties, 162.		Total, 2,180.					
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	863	43	57	35	920	42	128	31	1,048	40
,, present	1,155	57	105	65	1,260	58	285	69	1,545	60
Self-balancing, steady	1,874	93	142	88	2,016	92	400	97	2,416	93
,, ,, unsteady	144	7	20	12	164	8	13	3	177	7
Knee jerks—normal	1,723	85	129	80	1,852	85	341	83	2,193	85
,, ,, abnormal	295	15	33	20	328	15	72	17	400	15
Vision, 6/6 both eyes	1,923	95	136	84	2,059	94	405	98	2,464	95
,, 6/6 and 6/9; 6/9 and 6/9	70	4	7	4	77	4	8	2	85	3
,, over 6/9 in either eye	25	1	19	12	44	2	—	—	44	2
Nasopharynx—normal	1,930	96	159	98	2,089	96	362	88	2,451	95
,, abnormal	88	4	3	2	91	4	51	12	142	5
Teeth—no treatment required	1,722	85	137	85	1,859	85	340	82	2,199	85
,, treatment required	296	15	25	15	321	15	73	18	394	15
Pyorrhœa—absent	2,004	99	160	99	2,164	99	403	98	2,567	99
,, present	14	1	2	1	16	1	10	2	26	1

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TABLE XXIV.—AVERAGE RESULTS OF TESTS OF 2,018 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH AND 405 AIRMAN PILOTS FIT FOR FLYING DUTIES.

——	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.			Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing.	After-exercise.			
OFFICERS.	Years.		Yrs.	Kgs.	Secs.	Mm. Hg.	Secs.				Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	595	22·1	69·0	80·0	151·0	63·5	71·8	77·3	100·2	22·4	123·8	46·7
	25–30 ..	383	27·7	70·3	82·5	158·8	66·9	71·3	77·0	99·6	22·8	124·4	46·7
	31 and over	479	34·8	71·9	78·5	161·0	62·1	71·4	77·3	99·2	23·0	124·0	45·2
	All ages ..	1,457	27·8	70·3	80·2	156·3	63·9	71·5	77·2	99·7	22·7	124·0	46·2
Abroad	Under 25 ..	180	23·0	68·8	85·5	156·3	64·9	70·6	77·5	99·6	24·3	123·0	46·1
	25–30 ..	198	27·6	69·7	86·0	163·1	64·4	71·9	77·7	98·1	23·1	122·1	43·9
	31 and over	183	34·6	70·1	76·5	166·2	61·1	72·7	78·4	98·9	22·2	122·6	43·1
	All ages ..	561	28·4	69·5	82·7	161·9	63·5	71·8	77·8	98·8	23·2	122·6	44·4
Total force ..	Under 25 ..	775	22·4	68·9	81·3	152·2	63·9	71·5	77·3	100·1	22·9	123·6	46·5
	25–30 ..	581	27·7	70·1	83·7	160·2	66·1	71·5	77·2	99·1	22·9	123·6	45·7
	31 and over	662	34·7	71·4	77·9	162·4	61·8	71·8	77·6	99·1	22·8	123·6	44·6
	All ages ..	2,018	27·9	70·1	80·9	157·9	63·8	71·6	77·4	99·5	22·8	123·6	45·7

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AIRMAN PILOTS.													
At home	Under 25 ..	128	22·8	66·7	80·8	150·3	63·4	71·9	78·5	101·7	23·1	123·8	46·0
	25–30 ..	123	27·4	66·6	77·7	157·7	63·5	71·8	78·0	101·9	21·8	124·9	46·9
	31 and over	15	33·2	69·7	76·0	168·1	64·1	74·3	81·2	104·3	23·0	129·7	47·0
	All ages ..	266	25·5	66·8	79·1	154·7	63·4	72·0	78·4	101·9	22·5	124·6	46·4
Abroad	Under 25 ..	101	23·3	65·3	84·4	158·0	65·0	74·8	80·0	103·6	22·9	125·0	45·1
	25–30 ..	34	26·3	63·6	82·0	164·7	67·1	72·1	78·7	99·9	22·1	124·0	48·8
	31 and over	4	34·0	70·9	70·0	145·0	61·2	72·0	78·0	102·0	26·2	127·0	46·5
	All ages ..	139	24·4	65·0	83·4	159·3	65·4	74·0	79·6	102·6	22·8	124·8	46·1
Total force ..	Under 25 ..	229	23·1	66·1	82·4	153·7	64·1	73·2	79·2	102·5	23·0	124·3	45·6
	25–30 ..	157	27·2	66·0	78·6	159·2	64·2	71·9	78·1	101·5	21·8	124·7	47·3
	31 and over	19	33·4	70·0	74·7	163·2	63·5	73·8	80·5	103·8	23·7	129·2	46·9
	All ages ..	405	25·1	66·2	80·6	156·3	64·1	72·7	78·8	102·1	22·6	124·7	46·3

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TABLE XXV.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 162 OFFICERS OF THE GENERAL DUTIES BRANCH.

Defect.	At home.	Abroad.	Total.
Vision	31	7	38
Ears or teeth	12	1	13
Medical	38	9	47
Surgical	40	6	46
D.P.E.	10	1	11
D.P.E. and vision	5	1	6
D.P.E. and medical	1	—	1
Total ..	137	25	162

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Table XXVI.—Recruits—Causes of Final Rejection.

Total examined, 7,031. Cause of rejection.	Numbers rejected. By civilian medical practitioners.	At London Recruiting Depôt.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	815	250	5	1,070	152	259
Physique, poor	463	199	4	666	95	162
Feet, deformities of	262	292	6	560	80	136
Heart, diseases of, including D.A.H.	218	174	6	398	57	97
Ears, diseases of	53	142	1	196	28	48
Lungs, diseases of	11	162	1	174	25	42
Vision, defects of	228	125	3	356	51	86
Speech, defects of	16	9	0	25	4	6
Nervous system, diseases of	7	31	0	38	5	9
Cutaneous system, defects of ..	12	31	0	43	6	10
Albuminuria	14	11	1	26	4	6
Eyes and eyelids, diseases of ..	5	43	0	48	7	12
Hernia and bubonocele	13	9	1	23	3	6
Joints, diseases of	2	5	0	7	1	2
Veins, diseases of (varix)	35	49	0	84	12	20
Varicocele	49	14	1	64	9	16
Chest and spine, malformations of ..	11	7	0	18	3	4
Urinary organs, diseases of	11	17	2	30	4	7
Bed-wetting, history of	2	16	0	18	3	4
Ulcers, wounds, cicatrices	2	6	0	8	1	2
Other causes	149	111	12	272	39	66
Total	2,378	1,703	43	4,124	588	1,000

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TABLE XXVII.—DENTAL TREATMENT BY R.A.F. OFFICERS.

Treatment.	United Kingdom. (Average strength, 23,191.)	Mediterranean Littoral. (Average strength, 4,034.)	Iraq. (Average strength, 2,156.)	Total. (Average strength, 29,381.)
Fillings	29,946	3,183	1,643	34,772
Scalings	5,174	995	100	6,269
Extractions	12,419	1,705	653	14,777
Root fillings	354	26	16	396
Number of dentures supplied	355	88	30	473
Number of personnel supplied with dentures ..	255	57	21	333
Repairs to dentures ..	39	17	20	76
Remodels..	115	25	40	180

Note.—Dental treatment for R.A.F. personnel in India and Malta is carried out by the Army.

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TABLE XXVIII.—EXAMINATION OF TEETH ON ENTRY.

—	Number inspected.	Number dentally fit.		Number of teeth requiring fillings.	Average number of fillings required per candidate.	Number of teeth requiring extraction.	Average number of extractions required per candidate.
		No.	Percentage.				
Aircraft apprentices ..	942	61	6·5 3·4 without previous treatment.	3055	3·2	605	0·6
Recruits	1648	97	5·9 3·3 without previous treatment.	5392	3·3	1455	0·9

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AIR MINISTRY

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1931

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REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1931

The following Report on the Health of the Royal Air Force for the Year 1931 is issued for the information and guidance of all concerned.

By Command of the Air Council,

C. L. Bullock

AIR MINISTRY,

Published November, 1932

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force during 1931.

The incidence of sickness shows an increase compared with that of 1930—the increase amounting to 26·3 per 1,000 of strength for cases admitted to hospitals and station sick quarters only, and 59·2 per 1,000 for all cases of medical non-effectiveness, but a decrease compared with the average incidences for the periods 1926–1930 and 1921–1925. The increased sickness incidence in 1931 over 1930 is accounted for chiefly by an increased incidence of influenza from 9·7 in 1930 to 40·9 per 1,000 of strength in 1931.

The incidence of deaths was 4·4 per 1,000 of strength, which compares with 4·2 per 1,000 in 1930 and 4·2 and 4·3 per 1,000 for the periods 1926–1930 and 1921–1925 respectively.

The incidence of invalidings from the service rose from 5·8 per 1,000 of strength in 1930 to 7·4 per 1,000 in 1931. This figure compares with average incidences of 6·8 per 1,000 for the period 1926–1930 and 11·1 per 1,000 for the period 1921–1925. The rate of invaliding to the United Kingdom from abroad was 12·7 per 1,000, which compares with 12·8 per 1,000 in 1930. This figure is the lowest rate yet recorded.

A reduction in the incidence of venereal disease has been effected to 14·7 per 1,000, which is the lowest rate yet recorded.

I have the honour to be, Sir,

Your obedient Servant,

J. McINTYRE,
Director of Medical Services,
Royal Air Force.

August, 1932.

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TABLE I.—SICKNESS AT HOME AND ABROAD—ANALYSED BY GEOGRAPHICAL AREAS.

Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.						
												Fresh cases of sickness.		Deaths.	Invalided out of service.	Invalided to United Kingdom.	No. sick daily.	
		Less than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.				48-hour cases included.	48-hour cases excluded.
United Kingdom—																		
1931ø	23,050	4,315	9,113	13,428	98	206	—	12·6	17·8	7·3	7·0	582·6	395·4	4·3	8·9	—	20·0	19·1
Average 1926–30 (*a*) ..	*22,439*	*4,776*	*8,214*	*12,990*	*78*	*181*	—	*13·9*	*19·9*	*7·6*	*7·3*	*578·9*	*366·1*	*3·5*	*8·1*	—	*20·8*	*20·0*
Average 1921–25	*21,929*	*10,067*	*8,338*	*18,405*	*70*	*282**	—	*8·8*	*17·8*	*7·4*	*6·8*	*839·3*	*380·2*	*3·2*	*12·9**	—	*20·3*	*18·6*
Fleet Air Arm: home and abroad—																		
1931..	846	181	440	621	7	5	11	10·1	13·7	7·4	7·1	733·8	520·0	8·3	5·9	27·2	20·3	19·5
Average 1927–30	*799*	*357*	*298*	*655*	*6*	*2*	*7*	*8·3*	*16·6*	*6·8*	*6·2*	*819·8*	*373·0*	*7·5*	*2·5*	*16·8*	*18·6*	*17·0*
Mediterranean Littoral—																		
1931ø	3,939	1,824	1,875	3,699	13	10	39	8·3	14·9	7·8	7·1	940·2	476·0	3·3	2·5	9·9	21·4	19·5
Average 1926–30 (*a*) ..	*3,543*	*1,785*	*1,932*	*3,717*	*19*	*13*	*54*	*9·5*	*16·9*	*9·9*	*9·2*	*1049·1*	*545·3*	*5·4*	*3·7*	*15·2*	*27·1*	*25·2*
Average 1921–25	*3,662*	*2,402*	*2,095*	*4,497*	*19*	*22*	*59*	*9·6*	*18·9*	*11·8*	*10·8*	*1228·0*	*572·1*	*5·2*	*6·0*	*16·1*	*32·3*	*29·6*
Iraq—																		
1931..	2,116	826	1,221	2,047	9	8	39	10·5	16·7	10·2	9·6	967·1	576·9	4·3	3·8	18·4	27·9	26·3
Average 1926–30	*2,623*	*1,178*	*2,022*	*3,200*	*16*	*9*	*69*	*12·6*	*19·0*	*15·3*	*14·6*	*1220·1*	*770·8*	*6·1*	*3·4*	*26·3*	*41·9*	*40·0*
Average 1921–25	*2,889*	*3,038*	*2,713*	*5,751*	*26*	*20*	*87*	*9·5*	*18·7*	*19·0*	*17·6*	*1990·7*	*939·1*	*9·0*	*6·9*	*30·1*	*62·1*	*48·2*
India—																		
1931..	2,144	742	1,226	1,968	14	8	25	10·5	16·0	9·7	9·1	917·7	571·7	6·5	3·7	11·7	26·6	24·9
Average 1926–30	*2,008*	*1,084*	*1,393*	*2,477*	*12*	*7*	*26*	*8·8*	*14·5*	*10·8*	*10·0*	*1233·6*	*693·7*	*6·0*	*3·5*	*12·9*	*29·6*	*27·4*
Average 1921–25	*1,854*	*2,512*	*1,351*	*3,863*	*16*	*13*	*52*	*6·9*	*17·0*	*14·4*	*12·4*	*2083·6*	*728·7*	*8·6*	*7·0*	*28·0*	*39·5*	*34·0*
Total, abroad—																		
1931ø‡	8,552	3,551	4,505	8,056	38	28	109	9·6	16·0	9·1	8·4	941·8	526·6	4·4	3·3	12·7	24·9	23·0
Average 1926–30† (*a*) ..	*8,269*	*4,085*	*5,418*	*9,503*	*49*	*29*	*151*	*10·4*	*17·1*	*11·9*	*11·2*	*1149·2*	*655·2*	*5·9*	*3·5*	*18·3*	*32·6*	*30·7*
Average 1921–25	*8,405*	*7,951*	*6,159*	*14,110*	*61*	*55*	*198*	*8·8*	*18·4*	*14·8*	*13·5*	*1678·8*	*732·7*	*7·3*	*6·5*	*23·6*	*40·5*	*37·0*
Total force—																		
1931..	32,448	8,047	14,058	22,105	143	239	120	11·4	17·1	7·8	7·4	681·2	433·2	4·4	7·4	13·4	21·4	20·3
Average 1926–30	*31,347*	*9,147*	*13,871*	*23,018*	*131*	*212*	*157*	*11·9*	*18·7*	*8·7*	*8·3*	*734·3*	*442·5*	*4·2*	*6·8*	*18·0*	*23·8*	*22·7*
Average 1921–25	*30,334*	*18,018*	*14,498*	*32,516*	*131*	*336**	*198*	*8·8*	*18·0*	*9·4*	*8·6*	*1071·9*	*477·9*	*4·3*	*11·1**	*23·6*	*25·8*	*23·6*

ø Excludes Fleet Air Arm, to United Kingdom.

(*a*) Excludes Fleet Air Arm for 1927, 1928, 1929 and 1930.

‡ Includes sickness at Far East stations: 342 cases, 2 deaths, 2 finally invalided, and 6 invalided

† Includes sickness at Far East stations in 1927, 1928, 1929 and 1930.

* Excludes 711 invalids through Discharge Centre Medical Board during 1921.

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1931.

General.

1. The total sickness in the force at home and abroad is analysed in table I, page viii, by geographical areas. There has been no change in the areas since the last report and the average strengths of the Commands included under the geographical area of Mediterranean Littoral were Malta 415, Egypt 2,093, Sudan 191, Transjordan and Palestine 572, Aden 401, and drafts *en route* to and from the United Kingdom, 245. Table I gives the figures for 1931 and the corresponding average figures for the two five-yearly periods—1926–30 and 1921–25. These two periods are referred to throughout the report as the two preceding periods respectively. Separate figures are shown for the Fleet Air Arm and details of sickness at stations in the Far East are given in a footnote to this table.

2. The average strength of the total force during 1931 was 32,448 and the total number of cases of sickness, i.e., including admissions to hospitals and sick quarters and cases of less than 48 hours' duration was 22,105, giving a case incidence of 681·2 per 1,000 of strength compared with averages of 734·3 and 1071·9 respectively for the two preceding periods. Compared with the corresponding figures for 1930, the incidence of sickness for all cases shows an increase from 622·0 to 681·2 per 1,000 of strength.

3. In the whole force the number of admissions to hospitals and sick quarters was 14,058, representing an incidence of 433·2 per 1,000 of strength compared with average incidences of 442·5 and 477·9 respectively for the two preceding periods. This incidence rate shows an increase of 26·3 per 1,000 of strength over the corresponding figure for 1930.

4. Comparing the force at home and abroad, the total sickness incidence at home has increased from 514·3 in 1930 to 582·6 per 1,000 of strength in 1931, approximately the same as the average for the period 1926–30 at 578·9, and very much lower than for the period 1921–25. Abroad, an increase of 21·0 per 1,000 in 1931 is shown in the total incidence figure in relation to 1930, but the figure of 941·8 per 1,000 compares very favourably with the corresponding averages of 1,149·2 and 1,678·8 for the two preceding periods. At home the number of admissions to hospitals and sick quarters was 9,113, representing an incidence of 395·4 per 1,000 of strength compared with figures of 350·2 in 1930 and 366·1 and 380·2 per 1,000 for the two preceding periods. Abroad, the comparable figures are 4,505 admissions to hospitals and sick quarters, i.e., an incidence of 526·6 per 1,000 of strength, which compares with 562·4 per 1,000 in 1930 and 655·2 and 732·7 per 1,000 for the two preceding periods.

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5. In the whole force, including cases of less than 48 hours' duration, the number of sick daily at 21·4 per 1,000 of strength is 0·5 per 1,000 lower than the corresponding figure for 1930 and compares with averages of 23·8 and 25·8 per 1,000 for the two preceding periods. The comparable figures for home and abroad are as follows :—At home, 20·0 per 1,000 of strength were constantly sick in 1931, as in 1930, compared with 20·8 and 20·3 per 1,000 for the two preceding periods. Abroad, the figures were 24·9, 26·6, 32·6 and 40·5 per 1,000 for 1931, 1930, and the two preceding periods. Excluding cases of less than 48 hours' duration, in the force as a whole, the number of sick daily was reduced from 20·8 per 1,000 of strength in 1930 to 20·3 in 1931, and shows a marked reduction from the average incidences of 22·7 and 23·6 per 1,000 for the two preceding periods. At home, the number of sick daily showed a reduction of 0·4 per 1,000 compared with 1930, and the figure of 19·1 per 1,000 compares favourably with the figures—20·0 and 18·6 per 1,000 for the two preceding periods. Abroad, the constantly sick figure in 1931 continued the steady reduction noted in 1930 and 1929. The incidence of 23·0 per 1,000 in 1931 was lower by 2·2 per 1,000 compared with 1930 and compares with incidences of 30·7 and 37·0 per 1,000 for the two preceding periods.

6. In the total force, the average duration of each case in days was lower at 11·4 days compared with 12·8 days in 1930: the averages for the two preceding periods were 11·9 and 8·8 days, while the average number of days' sickness per head shows a reduction of 0·2 in 1931 from 8·0 days in 1930 and compares with averages of 8·7 and 9·4 days for the two preceding periods.

7. (i) Causes of sickness, excluding cases of less than 48 hours' duration, in the force as a whole, are analysed in table II, page 17, by certain diseases, groups of diseases and injuries to show the number of cases, deaths and invalids under each heading and to show further the percentage of each cause to the total, comparing 1931 with the two preceding periods.

(ii) In 1931, disease constituted 82·9 per cent. and injuries 17·1 per cent. of the total sickness, compared with 81·6 and 18·4 per cent. in 1930 and averages of 82·9 and 17·1 per cent. and 85·9 and 14·1 per cent. respectively, over the two preceding periods, thus showing that injury as a proportionate cause of sickness has remained stationary over the last six years following upon a tendency to show an increased percentage of the total sickness over the period 1921–25. The incidence of injury was slightly lower at 73·9 per 1,000 in 1931 than in 1930 at 74·8 per 1,000. In the periods under review and in 1931, other diseases due to infection showed the highest percentage of total sickness. Excluding injuries, diseases of the digestive system was the second highest cause of sickness in 1931, and in the period 1926–30, but was third in 1921–25, the second place during the latter period being occupied by sandfly fever with 7·6 per cent. It has to be

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noted that there was an increase in the number of cases due to influenza from 310 in 1930 to 1,328 in 1931. The percentage of 9·5 in 1931 due to this cause compares with percentages of 5·3 and 6·1 in the two preceding periods. It has further to be noted that malaria continues to show a percentage decrease in the cause of sickness, the percentage of cases being 2·7 in 1931 compared with 4·4 in 1930, representing a decrease of 186 cases, and this percentage compares with an average percentage of 6·6 over the two preceding periods. Except for these causes, the percentage for each cause remains very constant within small limits comparing the year and the two preceding periods.

8. The figures shown in table II, page 17, regarding deaths and invalids are commented upon respectively under these headings in this chapter.

9. (i) Table III, page 18, analyses the incidence of sickness and the average duration of each case in days by groups of diseases and injury groups for 1931 and the two preceding periods, divided further into the force at home, abroad and total force. In the incidence of groups of disease there is no marked variation found except for diseases caused by infection, the incidence of which, at home, rose to 177·0 per 1,000 from an average incidence of 162·8 per 1,000 for the period 1926–30 and 139·0 per 1,000 for 1930. This rise was due partly to an increased incidence of influenza to 48·2 in 1931 from 10·6 per 1,000 in 1930, and partly to an increased incidence of upper air passage infections to 75·9 in 1931, compared with 63·6 per 1,000 in 1930. Abroad, the incidence of diseases caused by infection fell to 302·9 per 1,000 from 384·4 and 472·8 per 1,000 for the two preceding periods and was due in part to a reduction in the number of cases of malaria, acute enteritis and acute gastro-enteritis.

(ii) The average duration for cases of disease fell to 16·4 days compared with 18·1 and 17·8 days for the two preceding periods. This decreased average duration is contributed to by an increased number of cases with short duration. The average duration of certain groups of disease shows marked variation, but the number of cases occurring in the group must be ascertained from table XII, page 28, before a true estimate of the figures can be made, as a few cases of unusually long or short duration give an unduly high or low average duration respectively. The injury groups show little variation worthy of note in either the incidence or in the average duration per case columns, comparing 1931 and the two preceding periods.

Fleet Air Arm.

10. The total strength of the Fleet Air Arm, 846, is small, and fluctuations in the incidence rates of sickness, deaths and invalidings are to be expected. The incidence of all cases of sickness was 733·8 per 1,000 of strength compared with 527·1 for 1930 and 819·8 per 1,000 for the four-yearly period 1927–30. Excluding 48 hours' cases, the sickness incidence rose markedly to

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520·0 per 1,000 in 1931 from 372·6 in 1930 and an average of 373·0 per 1,000 for the period 1927–30. There was also a rise in the incidence of deaths from 3·5 in 1930 to 8·3 per 1,000 in 1931, and this figure corresponds to the death rate for the period 1927–30, 7·5 per 1,000. The final invaliding rate at 5·9 per 1,000 was the same in 1931 as in 1930, but higher than the average incidence—2·5 per 1,000 for the period 1927–30. This incidence of 5·9 per 1,000 is comparable with the final invaliding rate for the total force of 6·8 per 1,000 for the period 1926–30. The incidence of invalids from abroad was lower at 27·2 per 1,000 in 1931 compared with 36·3 for 1930, but higher than the average incidence of 16·8 per 1,000 for the period 1927–30, and compares with the average invaliding rate from abroad over the period 1926–30 of 18·0 per 1,000 for the total force abroad. No comment is required regarding the constantly sick rate, the average duration in days of each case of sickness, and the average number of days' sickness per head which are shown in table I, page viii.

Invalidings.

11. *General.*—Table I, page viii, analyses the final invalidings and invalidings to the United Kingdom by geographical areas and total force, to show the numbers and incidences per 1,000 of strength for the year 1931 and average incidences for the periods 1926–30 and 1921–25. Table II, page 17, shows the final invalidings by disease and injury groups, stating the number of cases and the percentage of the total attributable to each group during 1931 and the average percentages for the two preceding periods. Table XII, page 28, analyses for 1931 only the incidence of final invalids by disease and injury causes and further shows the incidence of invalidings to the United Kingdom from abroad.

12. *Invalids from Commands abroad to United Kingdom.*—There was a very slight decrease in the invaliding rate from abroad—13·4 per 1,000 in 1931, compared with 13·7 in 1930, but the decrease was marked compared with the invaliding rates of 18·0 and 23·6 per 1,000 for the two preceding periods. In comparison with 1930, during 1931 there were decreases in the invaliding rate in the Mediterranean Littoral and in Iraq, but in India a fairly marked rise was recorded from 4·3 in 1930 to 11·7 per 1,000 in 1931, which compares with average incidences of 12·9 and 28·0 per 1,000 for the two preceding periods in this Command. The incidences for the Fleet Air Arm are analysed in paragraph 10. The groups of diseases responsible for the majority of these invalidings to the United Kingdom were :—Nervous system and brain, 25 ; injury, 18 ; digestive system (stomach and intestines), 9 ; tuberculosis, 9 ; respiratory system (excluding pulmonary tuberculosis), 8 ; diseases of ear and nose, 8 ; these diseases accounting for 77 out of a total of 120.

13. *Final invalids.*—Two hundred and thirty-nine cases were invalided out of the service in 1931, representing an incidence of 7·4 per 1,000 of strength, compared with 187, giving an incidence

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of 5·8 per 1,000 in 1930 and 212 and 336 and average incidences of 6·8 and 11·1 per 1,000 for the two preceding periods respectively. In each period under review the greatest percentage of final invalidings was due to diseases of the nervous system and brain—30·5 per cent. in 1931 and averages of 25·4 and 24·9 per cent. in the two preceding periods with tuberculosis occupying second place—10·5 per cent. in 1931 and average percentages of 12·6 and 14·1 in the two preceding periods. It will be noted that injuries were responsible for 8·4 per cent. of final invalidings in 1931 compared with percentages of 9·1 in 1930, 5·9 in 1929, 11·6 in 1928, and 10·7 in 1927, and average percentages of 8·6 and 4·8 for the two preceding periods. The chief causes of final invalidings in 1931 were :—

Psychoneurosis		32
Tuberculosis—		
Pulmonary	19	25
All other forms	6	
Diseases of joints	8	17
Deformities of limbs	9	
Fractures		17
Diseases of respiratory system		16
Mental diseases		15
Epilepsy		13
Diseases of heart—		
Valvular	4	12
Disordered action	8	
Defective vision		10

The same diseases—psychoneurosis and tuberculosis—have proved in 1931 as in former years the most frequent cause of invaliding from the service. Compared with 1930, there were increases in the numbers invalided for :—

Psychoneurosis	25 to 32
Tuberculosis—	
Other than pulmonary	3 to 6
Fractures	13 to 17
Diseases of respiratory system	8 to 16
Mental diseases	8 to 15
Epilepsy	6 to 13
Diseases of heart—	
Disordered action	1 to 8

and decreases in :—

Tuberculosis—	
Pulmonary	24 to 19
Defective vision	15 to 10
Diseases of the heart—	
Myocardial	5 to none

but no change in :—

Diseases of joints	17
Deformities of limbs	

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Deaths.

14. (i) Table I, page viii, analyses all deaths by numbers and by incidences per 1,000 of strength divided into geographical areas, the force abroad and the total force for the year 1931 and the two preceding periods. Table II, page 17, analyses for the same year and the same periods all deaths by groups of disease and injury, showing for each group the percentage of the total deaths. Table XII, page 28, further analyses by numbers for 1931 only all deaths by disease and injury causes, showing those occurring in the force at home and abroad and those for the total force. The figures in respect of deaths in the Fleet Air Arm are commented upon in paragraph 10, Chapter I.

(ii) There were 143 deaths in the whole force during 1931, an incidence of 4·4 per 1,000 of strength compared with 135 deaths and an incidence of 4·2 per 1,000 in 1930, and average incidences of 4·2 and 4·3 per 1,000 for the two preceding periods. Of this total, 103 occurred at home representing an increased incidence of 4·4 compared with 3·7 in 1930 and averages of 3·5 and 3·2 per 1,000 for the two preceding periods. This increase is partly accounted for by an epidemic of cerebro-spinal fever among the recruits at Uxbridge, which resulted in eight deaths. In addition, two isolated deaths from this disease occurred at home. As a result of these deaths from cerebro-spinal fever, the percentage of deaths caused by " other diseases due to infection " rose from 1·5 in 1930 to 11·2 per cent. in 1931 and this group of diseases were thus responsible for the greatest percentage of deaths in 1931—a place occupied by diseases of the digestive system in both the preceding periods.

(iii) The incidence of deaths abroad showed a decline to 4·4 per 1,000 in 1931 compared with average incidences of 6·0 and 7·3 per 1,000 in the two preceding periods.

15. Of the total of 143 deaths, 94 occurred as the result of injury compared with 106 in 1930 and 49 from disease compared with 29 in 1930. Thus, the number of deaths from injury showed a fair diminution while those from disease have markedly increased in 1931 compared with 1930. The numbers of deaths from these causes give a fairly accurate comparison as the average strengths of the total force in 1930 and 1931 were 32,000 and 32,448, respectively. The causes of the 49 deaths from disease were as follow :—

Cerebro-spinal fever	10
Septicaemia	6
Pneumonia	3
Diphtheria	2
Meningitis (acute)	2
General paralysis of the insane	2
Tuberculosis, cerebral	2
Syncope	2
Appendicitis	2

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Dysentery, bacillary	1
Enteric group	1
Rheumatism (acute)	1
Peritonsillar abscess (Oedema of glottis) ..	1
Cerebral abscess	1
Acute inflammation of mastoid process ..	1
Malignant endocarditis	1
Valvular disease of the heart (mitral) ..	1
Acute dilatation of the heart	1
Abscess of the lung	1
Acute peritonitis	1
Gastric ulcer	1
Gastric ulcer (perforated)	1
Carcinoma	1
Sarcoma..	1
Arsenical poisoning	1
Carbon monoxide poisoning	1
Effects of ether (anaesthetic)	1

Pulmonary Tuberculosis.

16. Twenty-three fresh cases of pulmonary tuberculosis were notified during 1931, compared with 25 in 1930 and 29 in 1929, and of this number 17 were finally invalided and six were remaining under treatment at the end of the year. One of the latter cases was first notified in 1927 and the disease was quiescent following treatment. He continued to serve, but the disease became active again during 1931. Another of these cases had a similar history except that the first diagnosis of the disease was made during 1928. No deaths occurred. Of the two cases which remained at the end of 1930, and were referred to in the report of that year, one was invalided in 1931, and one is still serving, being considered as a case of definite arrest. One case remaining from the year 1929 was invalided during 1931.

17. Table IV, page 19, analyses the 23 cases, by age, and trade groups, by length of service and type of unit. In two of the cases there was a family history of pulmonary tuberculosis and in 20 cases such a history was stated definitely not to exist, while in the remaining case it was doubtful. In two instances, that of a medical officer and of a trained nurse, there was evidence of direct infection, as they had been in charge of and nursing pulmonary tuberculosis cases prior to the onset of the disease. In 11 cases only had the individual served in a tropical or sub-tropical climate (Iraq 4, India 1, Aden 1, Transjordan 1, Iraq and India 1, Iraq, India and Egypt 1, Iraq and Egypt 2). Of these 11 cases only three had suffered from diseases peculiar to such climates (sandfly fever 3, malaria B.T. 1). Sixteen cases had records of previous illnesses which might be regarded as possible precursors of pulmonary tuberculosis. Four cases had been treated previous to the onset for " chronic cough," one gave

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a previous history of bronchial asthma, one of upper air passage infection, bronchitis and influenza, one of upper air passage infection, influenza and pleurisy with effusion, one of pleurisy in childhood and several attacks of bronchitis in the previous year, three of bronchitis, two of pleurisy with effusion, one of upper air passage infection, one of influenza, and one of " winter colds." Four cases gave a history of haemoptysis, and 10 of muco-purulent sputum, while 11 had lost weight, in two instances slight, and 8 had complained of " night sweats ". The tubercle bacillus was found in all except three cases and in these latter cases there were marked signs and symptoms of clinical pulmonary tuberculosis. In 16 cases the first radiological examination of the lungs was diagnostic of the disease. In two instances the larynx was involved at an early stage of the disease. Three cases considered that conditions of service had contributed to the occurrence of their disability—one to working in the open during a severe winter two years previously, one to the very strenuous office duties during a very hot summer in Iraq, and one to constant exposure to sandstorms in India over a period of four years.

Venereal Disease.

18. The incidence of venereal disease is analysed in table VI, page 21. Compared with 1930, the incidence of all venereal disease fell to 14·7 from 16·1 per 1,000 of strength in 1930. This figure is the lowest incidence of venereal disease yet recorded in the Royal Air Force, and compared with 1930, there was a decrease in the incidence of all types of venereal disease, that of primary syphilis in 1930 being almost double that of 1931. The incidences of all types of venereal disease, occurring abroad, were markedly higher than at home. In 1931, the average number of sick daily for all venereal disease was 42·0 at home and 34·7 abroad, compared with 50·6 at home and 30·2 abroad for 1930, while the average duration of each case in days in the whole force in 1931 was 58·8, which compares with 56·9 days in 1930. The part played by venereal disease in causing non-effectiveness at home and in the geographical areas abroad is shown by the following figures, which represent days' sickness per head ; the figures for 1930 and 1929 are given for comparison :—

	Days' sickness per head.		
	1931.	1930.	1929.
Home	0·7	0·8	0·6
India	0·8	0·6	0·9
Mediterranean Littoral	1·3	0·8	0·9
Iraq	1·7	2·3	2·7

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Age Groups.

19. Table V, page 20, gives an analysis of sickness incidence, subdivided into disease and injury, in the total force, in the force at home and abroad, by age groups in the case of airmen and by officers and cadets. The youngest group—aircraft apprentices—serves at home only and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of their number if divided into age groups. The incidence of disease in the officers and cadets group is lower than that of the total airmen group, and also lower than the incidence among airmen under age 28, while the injury incidence is higher than in the total airmen group and in all the airmen age groups excepting ages 20 and 21 group. Disease incidence in the age groups for airmen tends to become progressively lower as the airman gets older, both at home and abroad. As in previous years, it is noted that disease incidence is much higher in all groups abroad than at home. On the other hand, no definite conclusion can be drawn from the figures of injury incidence in airmen age groups comparing home and abroad, but the injury incidence appears to rise to a peak in the years 20 and 21 and then falls progressively as the airman gets older.

Types of Unit.

20. Table VIII, page 24, analyses the incidence of sickness subdivided into disease and injury in the total force and in the force at home and abroad by different types of unit. It will be noted that in flying units the sickness incidence is lowest, the disease incidence being markedly so—309·3 compared with 404·9 and 398·6 per 1,000 for depots and miscellaneous units respectively—while the incidence of injury is highest in flying units, but is not much higher than that of depots and miscellaneous units. The incidence of disease is twice as high in flying units abroad as in those stationed at home, but in depots whether at home or abroad this incidence is approximately the same. In miscellaneous units the disease incidence is higher in those abroad compared with those at home, but not so markedly increased as in the case of flying units. The incidence of injury shows little variation in any of the units whether at home or abroad. The incidence of deaths, as is to be expected, is highest in flying units, and is chiefly due to injury causes. The death incidence due to injury is almost twice as great as that due to disease. The incidence of final invalids is greatest in miscellaneous units which include personnel depots. This is what might be expected. At home the constantly sick figure is lowest in flying units and there is little variation in this figure comparing depots and miscellaneous units. Abroad, the various groups of units show approximately the same numbers constantly sick.

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Trade Groups.

21. Table IX, page 25, analyses by trade groups the incidence of sickness, divided into injury and disease and the latter further subdivided into the five groups of diseases which invariably are responsible for the bulk of medical non-effectiveness. Aircraft apprentices, who in 1928, 1929 and 1930 showed the highest all-disabilities incidence occupy third place in 1931 with 443·4 per 1,000 of strength, metal workers showing the highest incidence of 509·5, followed by aircrafthands with 503·5 per 1,000. Among apprentices, the decrease compared with 1930, is in part due to lowered incidences in upper air passage infections and in all other diseases. Since 1928, the incidence of all disabilities among aircraft apprentices has progressively fallen from 561·7 to 443·4 per 1,000 in 1931. Aircraft apprentices show the lowest injury incidence at 43·8 per 1,000 and metal workers the highest with 102·8 per 1,000. The occupation of clerks appears healthy, as in no group of diseases do clerks show an incidence in the first three, while they show the lowest incidences at 362·6 per 1,000 for all disabilities and 299·9 per 1,000 for all diseases. In all the trade groups, there has been a marked rise in the incidence of influenza compared with 1930, otherwise there is little variation in the incidences of the other causes of medical non-effectiveness in the different trade groups. Aircrafthands and metal workers with incidences of 24·8 and 17·8 per 1,000 respectively displace drivers from their usual first place to third place in the incidence of venereal disease. Excluding aircraft apprentices, the group of officers, cadets and airmen pilots, as is usual, show the lowest incidence of venereal disease with 6·9 per 1,000 of strength.

Injuries.

22. Table X, page 26, analyses injuries by cause and nature of injury. Cases of sickness due to heat exhaustion (12 cases), heat hyperpyrexia (3 cases), sunstroke (1 case) and sunburn (3 cases), and cases due to the wearing of ill-fitting boots (3 cases), are not included, as these types of cases do not come under the heading of injury for the purpose of this analysis.

23. The total number of cases of injury during 1931 was 2,377, an incidence of 73 per 1,000 of strength compared with incidences of 73 in 1930, 75·7 in 1929, and 77·6 per 1,000 in 1928. Sixty per cent. of all accidents occurred on duty compared with 56 per cent. in 1930 and 57 per cent. in both 1929 and 1928. Thus, there is very little variation in the incidence of total injuries and the percentage of accidents occurring on duty over these years. As in all previous reports, the commonest site of injury was the lower limb. Ninety-three deaths resulted from injury and of these 75 per cent. occurred on duty compared with 72, 60 and 76 per cent. respectively during the years 1930, 1929 and 1928.

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24. *Injuries sustained in flying accidents.*—Flying accidents were responsible for 6·2 per cent. of all injuries compared with 6·3, 6·0 and 6·6 per cent. during the years 1930, 1929 and 1928, respectively. During 1931, more hours were flown per accident resulting in injury or death than in any previous year. Flying accidents further accounted for 73 per cent. of the total deaths as a result of injury compared with 66 per cent. in 1930, 56 per cent. in 1929 and 68 per cent. in 1928. Table XI, page 27, further analyses flying casualties occurring on duty by years from 1928 to 1931 inclusive. The percentage of flying casualties on duty that resulted in death during 1931 was 46, which compares with percentages of 47, 28 and 41 for the years 1930, 1929 and 1928 respectively. During 1931, one officer was injured while flying off duty. Of 79 officer casualties on duty, 40 resulted in death and all the officers were of the general duties branch, excepting one officer of the stores branch, who was killed. Three cadets were killed as a result of flying on duty in 1931. There were 63 flying casualties among airmen, resulting in 25 deaths, compared with 29 deaths as a result of 63 flying casualties in 1930. Of the 25 deaths in 1931, 6 occurred among fully qualified airman pilots or airman pilots under training, and the remaining 19 deaths were distributed over the other trade groups as follows :

Fitters, 6 ; riggers, 2 ; clerks and W/T operators, 4 ; metal workers, 3 ; air gunners, 2 ; electrician, 1 ; and aircrafthand, 1.

In addition to the 6 deaths noted above, 9 airman pilots or airman pilots under training, were injured as a result of flying.

25. *Injuries caused by airscrews.*—During 1931, 24 cases of injury due to this cause were reported, of which one was off duty, compared with 26 in 1930 and 27 in 1929. Of the 23 cases on duty, 17 received injury swinging the airscrew, while the remaining 6 were injured as follows :—2 while removing chocks ; 1 walked into airscrew after passing under the aeroplane ; 1 while leaning out of the cockpit ; 1 while stooping under airscrew ; and 1 wrenched his knee after swinging airscrew. The case off duty was injured when swinging the airscrew. The casualties occurred over the following trade groups :—Fitters, 13 ; riggers, 7 ; officers, 2 ; aircrafthand, 1 ; metal worker,1.

Of the 23 cases on duty, 1 proved fatal and 2 were invalided from the service as a result of the injuries sustained. In the fatal case, death was due to fracture of the skull with extrusion of the brain substance while the invalidings were necessitated as a result of comminuted compound fractures, in the one case of the left femur and in the other of the lower end of the right humerus. As was to be expected, the sites of the majority of the injuries were the upper limb and the head and face in that order.

26. *Injuries sustained while starting motor engines.*—Twenty-four cases of injury occurred from this cause during 1931, compared with 25 and 36 in 1930 and 1929 respectively. These 24

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cases exclude those referred to in the preceding paragraph. There were no deaths and no invalids, and of the 24 cases, five occurred while the personnel were off duty. As might be expected, the site of the injury was the upper limb in the majority of cases.

27. *Injuries the result of motor accidents.*—During 1931, a total of 410 cases was recorded due to this cause, compared with 461 in 1930 and 431 in 1929. Of the 410 cases, 19 only occurred on duty. Twenty deaths resulted, 1 on duty, while of 12 invalided from the service, 1 received the injuries on duty. The death and the invalid figures resultant from injury due to this cause for 1931, 1930 and 1929, are shown below for comparison :—

	1931.	1930.	1929.
Deaths	20	20	19
Invalids	12	10	7

These figures indicate that each year the non-effectiveness and deaths ot personnel from this cause are very considerable. Injuries from this cause are analysed by four groups as follows :—

(i) *Motor cycles—occupants.*—Three hundred cases, or approximately 73 per cent. of all motor accidents resulting in injury and 12 per cent. of all injuries, occurred to riders of motor cycles during 1931. Two hundred and ninety-four of these cases occurred off duty and resulted in 13 deaths and 10 invalidings, compared with the above figures, in 1930, 80 per cent. of all motor accidents and 16 per cent. of all injuries occurred to the occupants of motor cycles.

(ii) *Lorries or tenders—occupants.*—Ten cases on duty and one case off duty were reported during 1931, and compares with 10 cases in 1930. During 1931 there were no deaths nor invalids resulting from this type of accident.

(iii) *Motor cars—occupants.*—Seventy-four cases, 72 off duty, 1 on duty, and 1 with incomplete detail, were reported during 1931, compared with 52, 7 on duty in 1930. Five cases, all off duty, proved fatal, but there were no invalids.

(iv) *Motor vehicles, all types—non-occupants.*—There were 25 cases of injury to personnel who were not occupants of motor vehicles during 1931. The types of vehicles involved in the accidents were :—Civilian, 18 (with 1 death and 1 invalid) ; R.A.F., 4 (with 1 death) ; unknown, 3. In 3 instances the person injured was on duty and 1 of these cases proved fatal.

28. *Injuries sustained in athletics.*—During 1931, 1,089 cases of injuries sustained in athletics, an incidence of 33·6 per 1,000, were notified, compared with 983 and 993 cases and incidences

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of 30·7 and 31·7 per 1,000 of strength in 1930 and 1929, respectively. During 1931, injuries sustained in athletics were responsible for 45·8 per cent. of all injuries on or off duty, compared with 42·1 in both 1930 and 1929. It is noted, as might be expected, that the majority of cases due to this cause, resulted in injury to the lower limb. Of the 1,089 cases, 895, or 82 per cent., occurred on duty, i.e., in games or exercises organised by the service, while of 155 off-duty cases, 1 resulted in death and 1 was invalided from the service. In 39 cases, no information was available as to whether the injury was sustained while on or off duty. The one death was the result of drowning and the one invalid was discharged from the service on account of the sequelae to a partial dislocation of the sacrum. As in previous years, football accounted for the majority of the injuries in this group—789 cases, or 72 per cent. in 1931, compared with 70 and 66 per cent. in 1930 and 1929 respectively. The commonest injuries, as in previous years, among the injuries received playing football were synovitis of knee (176 cases), and sprained ankle (148 cases).

29. *Wounds in action.*—Fortunately no injuries were reported as a result of wounds in action.

30. *Accidental gunshot wounds.*—During 1931, 8 cases, as in 1930, were notified due to this cause, of which 7 occurred on duty and 1 off duty. No deaths nor invalidings resulted from these injuries.

31. *Injuries sustained during voluntary parachute descents.*—Two cases of injury compared with four in 1930 were reported during voluntary descents by parachute. Any cases of injury occurring as a result of emergency descents have been included under flying accidents, paragraph 24. There were no deaths and no invalids as a result of the two cases of injury.

32. *Injuries caused by animals.*—During 1931, 2 cases of bites by dogs, compared with 7 in 1930, and 5 cases of injury through the medium of other animals were reported.

33. *Injuries sustained in workshops.*—Thirty cases, with no resultant deaths nor invalids, compared with 45 and 42 in 1930 and 1929 respectively, were notified during 1931.

34. *Other causes of injury.*—Six hundred and thirty-five cases of injury which it is not possible to classify under any of the preceding paragraphs on injury were reported during 1931, compared with 623 in 1930 and 670 in 1929. Of these 635 cases, 281 occurred to personnel on duty, 316 off duty and 38 cases in which this information was incomplete in detail. Of the cases on duty, two were invalided as a result of effects of concussion and crushed bones of the left foot. Of the cases off duty, three proved fatal, the result of self-inflicted injuries.

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Nosological Tables.

35. Table XII, page 28, is the chief nosological table of the report and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad and as a whole. Certain diseases and injuries marked with an asterisk in table XII and which are responsible for the majority of the total sickness are analysed in greater detail in table VII, page 22, by geographical areas and by total force. The main object of table VII is to indicate the relative incidence of tropical diseases in commands abroad. The incidences of the Fleet Air Arm, which were shown separately in table I, page viii, are included in the home and abroad figures as appropriate in tables VII and XII. The heading " no appreciable disease " includes all cases, except mental and epileptic which were admitted to hospital or sick quarters for observation and in which no confirmation of disease or injury was made.

36. The principal causes of medical non-effectiveness with the average number of sick daily are tabulated below, and the figures for 1930 and 1929 are inserted for comparison :—

	Average number sick daily.		
	1931.	1930.	1929.
Injuries	135·3	140·8	140·5
Gonorrhoea	62·2	64·7	56·2
Upper air passage infections (excluding tonsillitis) ..	28·9	17·5	24·2
Influenza	26·0	7·4	31·7
Appendicitis	23·3	21·0	19·3
Tonsillitis	22·4	30·1	34·0
Venereal disease (excluding gonorrhoea)	14·5	16·0	14·5
Malaria	13·5	18·1	20·3
Cellulitis	12·3	15·5	14·4
Diseases of joints ..	10·8	11·6	15·3
Urethritis (non-venereal)	10·3	10·4	8·2
Impetigo contagiosa ..	10·1	11·0	10·4

As in the two previous years, injuries and gonorrhoea proved the chief causes of sickness during 1931. It is noted that influenza resumed its normal position of approximately fourth place on the list of causes of medical non-effectiveness, but that the figures for influenza were almost solely accounted for by its prevalence at home, an average constantly sick figure of 22·6 at home compared with 3·4 abroad, a much wider variation than would be anticipated from the respective strengths. The constantly sick figure for rheumatism (acute) shows a reduction from 11·3 in 1930 to 5·8 in 1931. It is also noteworthy that the constantly sick figure for contacts and carriers rose at home from

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3·4 in 1930 to 7·6 in 1931, a result of the cerebro-spinal fever epidemic at Uxbridge. The rise in the figures for appendicitis is due solely to a rise which occurred at home of 4·0 in the constantly sick figure.

37. Compared by geographical areas, the order of medical effectiveness during 1931 was :—The force at home, 7·3 days' sickness per head ; the Fleet Air Arm, 7·4 days ; the Mediterranean Littoral (Egypt, Sudan, Palestine, Transjordan and Aden), 7·8 days ; India, 9·7 days ; and Iraq, 10·2 days. In 1930 the order was :—The force at home and the Fleet Air Arm, equal ; the Mediterranean Littoral ; India ; Iraq. It is noted that there is little variation in the order from year to year.

38. The part played by venereal disease in the various geographical areas as a cause of non-effectiveness is commented upon in paragraph 18, page 8, comparing 1931 with the years 1930 and 1929.

39. The main groups of diseases abroad—dysentery, enteric group, malaria and sandfly fever—show the following comparative figures of days' sickness per head for the geographical areas, to account for medical non-effectiveness. Figures for 1930 are inserted for comparison.

——	Days' sickness per head.					
	Mediterranean Littoral.		Iraq.		India.	
	1931.	1930.	1931.	1930.	1931.	1930.
Dysentery	0·1	0·1	0·2	0·4	0·5	0·4
Enteric group ..	0·1	0·1	0·2	0·3	0·4	0·4
Malaria, primary ..	0·2	0·2	0·3	0·5	0·5	0·5
Malaria, other (including clinical).	0·1	0·1	0·1	0·3	0·5	0·7
Sandfly fever ..	0·2	0·2	0·8	0·6	0·4	0·5

There is a decided decrease in the incidence of malaria compared with 1930. The decrease of 186 cases represents a decreased incidence of 6·0 per 1,000 of strength or a fall in the constantly sick figure from 18·1 in 1930 to 13·5 in 1931.

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1931.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1931.	1926-30.	1921-5.	1931.	1926-30.	1921-5.	1931.	1926-30.	1921-5.
Dysentery	80	1	—	0·6	*0·7*	*1·4*	0·7	*0·2*	*0·3*	—	—	*0·2*
Enteric group ..	27	1	—	0·2	*0·3*	*0·2*	0·7	*2·7*	*2·3*	—	—	—
Influenza	1,328	—	—	9·5	*5·3*	*6·1*	—	*0·3*	*0·2*	—	—	—
Malaria	382	—	—	2·7	*6·6*	*6·6*	—	*1·2*	*0·8*	—	*0·2*	*0·1*
Pneumonia ..	46	3	—	0·3	*0·4*	*0·5*	2·1	*3·3*	*5·0*	—	*0·1*	—
Pyrexia of unknown origin	35	—	—	0·2	*0·3*	*0·7*	—	—	*0·2*	—	—	—
Sandfly fever ..	454	—	—	3·2	*4·0*	*7·6*	—	—	—	—	—	—
Tuberculosis ..	31	2	25	0·2	*0·3*	*0·4*	1·4	*4·3*	*3·2*	10·5	*12·6*	*14·1*
Venereal diseases ..	476	—	3	3·4	*3·8*	*5·5*	—	—	—	1·3	*0·2*	*1·0*
Pyæmia and septicæmia	11	6	—	0·1	*0·0*	*0·0*	4·2	*1·5*	*2·3*	—	—	—
Other diseases due to infection	4,001	16	12	28·5	*28·8*	*25·6*	11·2	*1·2*	*1·6*	5·0	*3·3*	*1·6*
Contacts and carriers	137	—	2	1·0	*0·5*	*0·3*	—	—	—	0·8	*0·1*	*0·1*
Nervous system and brain	226	3	73	1·6	*1·7*	*2·0*	2·1	*2·1*	*2·3*	30·5	*25·4*	*24·9*
Eye	158	—	10	1·1	*1·1*	*1·1*	—	—	—	4·2	*9·5*	*7·5*
Ear and nose ..	337	1	9	2·4	*2·0*	*1·8*	0·7	*0·2*	—	3·8	*8·3*	*11·4*
Circulatory system	118	5	16	0·8	*1·1*	*1·2*	3·5	*2·9*	*2·6*	6·7	*10·7*	*7·7*
Lymphatic system..	15	—	1	0·1	*0·1*	*0·1*	—	—	*0·2*	0·4	*1·4*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	415	1	16	3·0	*3·0*	*2·9*	0·7	*0·3*	*1·2*	6·7	*3·5*	*4·3*
Teeth and gums ..	70	—	—	0·5	*0·6*	*0·6*	—	—	—	—	*0·2*	*0·1*
Digestive system ..	1,382	5	13	9·8	*9·1*	*7·5*	3·5	*4·4*	*5·3*	5·4	*2·5*	*3·7*
Disorders of nutrition and metabolism	16	—	6	0·1	*0·1*	*0·0*	—	*0·2*	*0·2*	2·5	*0·6*	*0·6*
Generative system..	266	—	—	1·9	*2·1*	*1·6*	—	—	—	—	*0·3*	*0·2*
Organs of locomotion	392	—	24	2·8	*2·8*	*2·9*	—	—	—	10·0	*8·7*	*11·4*
Areolar tissue and skin	852	—	1	6·0	*5·7*	*6·5*	—	*0·2*	—	0·4	*1·0*	*1·1*
Urinary organs ..	121	—	5	0·9	*0·7*	*0·5*	—	*0·9*	*0·7*	2·1	*2·0*	*3·1*
Tumours and cysts	64	2	3	0·4	*0·5*	*0·6*	1·4	*1·4*	*1·2*	1·3	*0·6*	*0·5*
Poisons	68	3	—	0·5	*0·3*	*0·3*	2·1	*1·4*	*0·6*	—	—	*0·1*
Debility	28	—	—	0·2	*0·3*	*0·6*	—	—	—	—	—	*0·4*
Other diseases ..	123	—	—	0·9	*0·7*	*0·8*	—	—	—	—	*0·2*	*0·1*
Total: all diseases	11,659	49	219	82·9	*82·9*	*85·9*	34·3	*28·7*	*30·2*	91·6	*91·4*	*95·2*
Total: all injuries	2,399	94	20	17·1	*17·1*	*14·1*	65·7	*71·3*	*69·8*	8·4	*8·6*	*4·8*
Total: all disabilities	14,058	143	239	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total force.			Home.			Abroad.			Total force.		
	1931.	Average 1926–30.	Average 1921–25.	1931.	Average 1926–30.	Average 1921–25.	1931.	Average 1926–30.	Average 1921–25.	1931.	Average 1926–30.	Average 1921–25.	1931.	Average 1926–30.	Average 1921–25.	1931.	Average 1926–30.	Average 1921–25.
Diseases caused by infection ..	177·0	162·8	179·8	302·9	384·4	472·8	211·8	223·6	261·0	13·1	16·2	16·5	14·0	14·7	16·0	13·5	15·5	16·3
Contacts and carriers	5·4	3·2	1·8	1·1	0·6	0·9	4·2	2·5	1·6	21·8	15·5	11·0	13·1	24·9	18·0	21·2	16·2	12·0
Effects of parasites	1·3	0·9	0·5	2·5	2·7	2·4	1·6	1·4	1·0	20·1	23·3	7·6	33·0	23·7	23·3	25·6	23·5	17·4
Diseases of nervous system and brain	6·4	6·4	8·6	8·5	10·9	12·0	7·0	7·6	9·5	36·1	38·7	30·1	45·4	47·5	55·0	39·3	42·1	38·8
Diseases of the eye	5·0	4·5	5·0	4·6	5·4	5·6	4·9	4·7	5·2	21·0	19·9	18·2	18·6	23·1	33·2	20·4	20·9	22·7
Diseases of the ear and nose ..	8·0	6·9	8·3	16·6	14·7	10·1	10·4	9·0	8·8	21·8	20·4	21·1	16·5	17·3	25·4	19·4	19·0	22·5
Diseases of the circulatory system	3·9	4·3	4·3	3·0	5·9	9·4	3·6	4·8	5·7	25·0	40·8	24·6	31·2	35·4	48·1	26·4	39·0	35·3
Diseases of the lymphatic and ductless glands	0·6	0·4	0·2	0·2	0·3	0·3	0·5	0·4	0·2	25·5	60·2	36·6	51·0	61·5	49·7	28·9	60·5	40·7
Diseases of the respiratory system	11·9	12·2	13·1	15·2	16·2	15·8	12·8	13·3	13·9	19·5	19·7	16·9	16·8	16·6	20·5	18·6	18·7	18·0
Diseases of the teeth and gums ..	2·3	2·7	2·9	1·8	3·0	3·2	2·2	2·8	3·0	12·2	10·3	9·4	10·4	11·4	10·8	11·8	10·6	9·9
Diseases due to disorders of nutrition or metabolism	0·6	0·3	0·2	0·3	0·2	0·1	0·5	0·2	0·2	31·2	27·7	32·7	165·0	28·2	53·0	56·3	27·8	36·8
Diseases of the digestive system	44·3	37·2	29·7	38·2	47·6	51·2	42·6	40·1	35·7	19·2	22·0	20·2	17·2	19·8	17·7	18·7	21·2	19·2
Diseases of the generative system	7·3	7·5	6·4	10·6	13·1	10·7	8·2	9·1	7·6	30·1	26·4	19·3	19·0	20·7	21·1	26·1	24·1	20·0
Diseases of the organs of locomotion	11·9	11·8	13·3	12·6	14·3	15·3	12·1	12·5	13·9	23·8	25·1	17·9	21·0	20·9	19·7	23·0	23·8	18·4
Diseases of the areolar tissue and skin	27·8	25·3	34·6	22·1	24·4	22·6	26·3	25·0	31·3	17·3	18·5	16·0	15·4	16·2	16·9	16·9	17·9	16·2
Diseases of the urinary organs ..	3·5	2·5	2·4	4·4	4·9	3·3	3·7	3·1	2·6	32·4	34·4	29·7	23·1	34·6	47·1	29·4	34·5	35·8
Tumours and cysts	2·3	2·1	2·6	1·1	2·3	2·8	2·0	2·2	2·6	23·7	20·0	17·4	18·3	30·3	23·0	22·9	23·1	19·1
Poisons	0·5	0·5	0·9	6·3	3·8	3·1	2·1	1·4	1·5	4·8	12·1	7·2	9·3	12·8	13·2	8·5	12·6	10·6
All other diseases	3·2	2·4	4·1	2·8	4·3	8·2	3·1	3·0	5·2	10·6	12·0	11·8	8·7	12·3	22·5	10·1	12·1	16·4
Total, all diseases	322·9	293·9	318·8	454·8	559·0	649·7	359·3	366·7	410·5	16·7	19·1	17·5	15·7	16·8	18·2	16·4	18·1	17·8
General injuries	8·3	8·1	5·1	7·4	10·2	16·3	8·1	8·7	8·2	33·6	26·0	17·0	15·5	20·7	15·9	29·0	24·3	16·4
Local injuries	64·6	63·0	56·3	69·1	78·0	66·8	65·9	67·1	59·2	20·6	22·7	19·5	17·0	17·9	20·7	19·5	21·2	19·9
Total, all injuries	73·0	71·1	61·4	76·5	88·2	83·1	73·9	75·8	67·4	22·1	23·0	19·3	16·8	18·2	19·7	20·6	21·5	19·4
Total, all disabilities ..	395·9	365·0	380·2	531·3	647·2	732·8	433·2	442·5	477·9	17·7	19·8	17·8	15·9	17·0	18·4	17·1	18·7	18·0

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TABLE IV.—PULMONARY TUBERCULOSIS. 1931.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Type of unit.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	1	—	1	0·2	Officers, cadets and airman pilots.	5	1·3	Under 1 year ..	—	—	Flying units ..	9	0·6
20–24 ..	5	3	8	0·6	Apprentices ..	1	0·3	1 year and under 5 years.	8	0·7	Depôts	5	0·5
25–29 ..	4	1	5	0·7	Aircrafthands ..	4	0·6	5 years and under 10 years.	8	0·7	Miscellaneous ..	9	1·1
30–34 ..	3	1	4	1·1	Clerks	—	—	10 years and over	7	1·1			
35–39 ..	1	1	2	1·0	Drivers	3	1·3						
40–44 ..	—	—	—	—	Fitters	2	0·4						
45 and over..	3	—	3	6·8	Carpenters and riggers.	3	0·9						
					Metal workers ..	—	—						
					Other skilled trades	5	1·4						
Total ..	17	6	23	0·7	Total	23	0·7	Total	23	0·7	Total	23	0·7

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Table V.—Disease and Injury—Analysed by Age Groups. 1931.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	Total.	Home.	Abroad.	Total.	Home.	Abroad.	Total.	Home.	Abroad.	Total.
Airmen—												
Under 18	1,782	—	1,782	493·8	—	493·8	53·9	—	53·9	547·7	—	547·7
18 and 19	3,386	67	3,453	371·2	*	367·8	64·7	*	64·3	435·9	*	432·1
20 and 21	3,628	1,039	4,667	366·6	502·4	396·8	104·7	75·1	98·2	471·3	577·5	495·0
22 and 23	2,440	2,312	4,752	334·8	447·2	389·5	91·4	75·7	83·8	426·2	522·9	473·3
24 and 25	2,424	1,760	4,184	296·2	473·8	370·9	81·3	93·2	86·3	377·5	567·0	457·2
26 and 27	1,864	735	2,599	282·7	484·4	339·7	82·1	81·6	82·0	364·8	566·0	421·7
28 and 29	1,643	572	2,215	230·7	421·3	279·9	45·6	68·2	51·5	276·3	489·5	331·4
30 to 34	2,278	942	3,220	239·2	451·2	301·3	40·0	46·7	41·9	279·2	497·9	343·2
35 and over	1,510	569	2,079	242·4	448·2	298·7	27·8	49·2	33·7	270·2	497·4	332·4
Total—airmen	20,955	7,996	28,951	325·3	460·2	362·6	70·5	73·9	71·4	395·8	534·1	434·0
Total—officers and cadets ..	2,537	960	3,497	302·3	409·4	331·7	93·8	97·9	94·9	396·1	507·3	426·6
Total—all ranks	23,492	8,956	32,448	322·9	454·8	359·3	73·0	76·5	73·9	395·9	531·3	433·2

* Not calculated.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhœa—acute ..	183	7·8	33·8	67·4	142	15·8	23·4	60·1	325	10·0	57·2	64·2
relapse ..	14	0·6	2·5	65·2	13	1·5	2·5	71·8	27	0·8	5·0	68·4
Total ..	197	8·4	36·3	67·2	155	17·3	25·9	61·1	352	10·8	62·2	64·5
Syphilis—admissions :												
Primary	12	0·5	1·8	53·3	22	2·5	2·6	42·7	34	1·0	4·3	46·5
Secondary	2	0·1	0·4	72·5	3	0·3	0·3	38·0	5	0·2	0·7	51·8
Tertiary	2	0·1	0·3	60·0	—	—	—	—	2	0·1	0·3	60·0
For further treatment	27	1·1	3·0	40·4	—	—	0·2	—	27	0·8	3·2	42·7
Total	43	1·8	5·5	46·4	25	2·8	3·1	44·6	68	2·1	8·5	45·8
Soft chancre	5	0·2	0·3	19·4	51	5·7	5·7	40·9	56	1·7	6·0	39·0
Total, venereal disease 1931	245	10·4	42·0	62·6	231	25·8	34·7	54·8	476	14·7	76·7	58·8
1930	*293*	*12·7*	*50·6*	*62·9*	*224*	*25·4*	*30·2*	*49·1*	*517*	*16·1*	*80·6*	*56·9*
1929	*250*	*11·0*	*37·8*	*55·2*	*216*	*25·5*	*32·9*	*55·6*	*466*	*15·0*	*70·7*	*55·4*
1928	*302*	*13·5*	*44·6*	*54·0*	*254*	*31·3*	*34·4*	*49·6*	*556*	*18·2*	*79·0*	*52·0*
1927	*269*	*12·5*	*40·8*	*55·4*	*259*	*30·1*	*31·6*	*44·6*	*528*	*17·5*	*72·4*	*50·1*
1926	*357*	*14·9*	*59·5*	*60·8*	*208*	*23·0*	*31·8*	*55·9*	*565*	*17·1*	*91·3*	*59·0*
1925	*400*	*16·8*	*57·0*	*52·0*	*256*	*27·9*	*36·4*	*51·9*	*656*	*19·9*	*93·4*	*51·9*
1924	*432*	*19·2*	*59·3*	*50·3*	*272*	*30·0*	*44·0*	*59·2*	*704*	*22·3*	*103·3*	*53·8*
1923	*482*	*23·8*	*64·8*	*49·1*	*299*	*31·4*	*42·3*	*51·7*	*781*	*26·2*	*107·2*	*50·1*
1922	*525*	*24·9*	*76·1*	*52·9*	*263*	*33·5*	*34·4*	*47·7*	*788*	*27·2*	*110·5*	*51·2*
1921	*709*	*32·3*	*94·2*	*48·5*	*314*	*49·2*	*52·2*	*60·7*	*1,023*	*36·1*	*146·4*	*52·2*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 23,492. (Includes Fleet Air Arm at Home).				Mediterranean Littoral. Average strength, 3,939.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily	Duration of case.			No. sick daily	Duration of case.
Diseases caused by Infection.				Days.				Days.
Dysentery—								
Clinical, primary ..	—	—	—	—	—	—	0·1	—
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	1	0·0	0·0	14·0	11	2·8	0·6	19·4
,, recurrent ..	1	0·0	0·0	15·0	1	0·3	0·1	31·0
Amœbic, primary ..	—	—	—	—	3	0·8	0·3	32·3
,, recurrent ..	1	0·0	0·1	44·0	—	—	—	—
Total—dysentery ..	3	0·1	0·2	24·3	15	3·8	1·0	24·0
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	0·3	—
Paratyphoid fever, A & B	—	—	—	—	10	2·5	1·1	40·5
Clinical enteric	—	—	—	—	2	0·5	0·2	39·5
Enteritis	55	2·3	1·0	6·9	97	24·6	1·7	6·4
Influenza	1,132	48·2	22·6	7·3	67	17·0	1·2	6·8
Malaria—								
Clinical, primary	—	—	—	—	11	2·8	0·4	14·3
,, recurrent ..	10	0·4	0·3	11·3	1	0·3	0·0	4·0
Benign tertian, primary ..	—	—	—	—	25	6·3	0·9	13·3
,, ,, recurrent	37	1·6	2·4	23·2	11	2·8	0·3	8·9
Malignant tertian, primary	—	—	—	—	17	4·3	0·7	16·0
,, ,, recurrent	—	—	—	—	3	0·8	0·1	8·7
Total—malaria	47	2·0	2·7	20·7	68	17·3	2·4	13·1
Pyrexia of unknown origin ..	16	0·7	0·4	10·0	11	2·8	0·4	13·1
Sandfly fever	—	—	—	—	119	30·2	2·1	6·4
Tuberculosis	22	0·9	3·0	49·9	3	0·8	0·5	65·3
Upper air passage infections	1,783	75·9	38·0	7·8	359	91·1	6·3	6·4
Venereal disease	245	10·4	42·0	62·6	89	22·6	13·6	56·0
Other diseases caused by infection	855	36·4	39·8	17·0	204	51·8	6·5	11·6
Total—all diseases caused by infection ..	4,158	177·0	149·7	13·1	1,044	265·0	37·4	13·1
All other diseases ..	3,428	145·9	198·3	21·1	555	140·9	26·0	17·1
Total—all diseases ..	7,586	322·9	348·0	16·7	1,599	405·9	63·4	14·5
Injuries—								
General injuries	196	8·3	18·1	33·6	23	5·8	1·7	27·3
Local injuries	1,518	64·6	85·6	20·6	253	64·2	11·3	16·3
Total—all injuries ..	1,714	73·0	103·7	22·1	276	70·1	13·0	17·2
Total—all disabilities ..	9,300	395·9	451·7	17·7	1,875	476·0	76·4	14·9

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Diseases caused by Infection, 1931.

Iraq. Average strength, 2,116.				India. Average strength, 2,144.				Total Force. Average strength, 32,448.			
No. of cases	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case.			No. sick daily	Duration of case.			No. sick daily	Duration of case.
			Days.				Days.				Days.
1	0·5	0·0	14·0	5	2·3	0·3	22·4	6	0·2	0·4	24·2
—	—	—	—	—	—	0·0	—	—	—	0·0	—
5	2·4	0·5	33·4	34	15·9	2·2	23·3	51	1·6	3·3	23·3
—	—	—	—	2	0·9	0·1	14·0	4	0·1	0·2	18·5
10	4·7	0·9	32·8	4	1·9	0·4	34·2	17	0·5	1·5	33·1
—	—	—	—	1	0·5	0·1	37·0	2	0·1	0·2	40·5
16	7·6	1·4	31·8	46	21·5	3·1	24·3	80	2·5	5·6	25·8
2	0·9	0·6	104·0	4	1·9	1·2	109·5	6	0·2	2·1	125·7
3	1·4	0·6	68·3	1	0·5	0·5	178.0	14	0·4	2·2	56·3
2	0·9	0·2	33·5	3	1·4	0·4	54·7	7	0·2	0·8	44·3
95	44·9	1·7	6·5	45	21·0	1·0	8·0	303	9·3	5·6	6·8
15	7·1	0·3	7·5	18	8·4	0·5	10·8	1,328	40·9	26·0	7·1
6	2·8	0·2	13·7	11	5·1	0·3	10·5	28	0·9	1·0	12·7
1	0·5	0·0	15·0	5	2·3	0·1	8·0	17	0·5	0·5	10·1
26	12·3	1·1	15·2	72	33·6	2·2	11·0	124	3·8	4·2	12·4
9	4·3	0·4	14·7	95	44·3	2·6	9·8	152	4·7	5·5	13·3
12	5·7	0·6	17·6	21	9·8	0·7	12·3	50	1·5	1·8	12·8
3	1·4	0·1	14·0	5	2·3	0·1	8·8	11	0·3	0·3	10·2
57	26·9	2·4	15·4	209	97·5	6·0	10·5	382	11·8	13·5	12·9
2	0·9	0·1	15·5	5	2·3	0·3	25·0	35	1·1	1·3	13·3
233	110·1	5·0	7·8	96	44·8	2·1	8·1	454	14·0	9·2	7·4
3	1·4	1·2	144·3	1	0·5	0·4	160·0	31	1·0	5·5	64·3
157	74·2	3·0	7·0	148	69·0	3·0	7·4	2,516	77·5	51·3	7·4
62	29·3	9·9	58·5	29	13·5	4·8	60·5	476	14·7	76·7	58·8
86	40·6	3·3	14·0	68	31·7	2·3	12·6	1,239	38·2	53·7	15·8
733	346·4	29·6	14·7	673	313·9	25·8	14·0	6,871	211·8	253·5	13·5
352	166·4	18·8	19·5	345	160·9	19·5	20·6	4,788	147·6	270·4	20·6
1,085	512·7	48·4	16·3	1,018	474·8	45·3	16·2	11,659	359·3	523·9	16·4
18	8·5	0·6	11·8	17	7·9	0·4	8·1	262	8·1	20·9	29·0
118	55·8	6·9	21·3	191	89·1	8·0	15·2	2,137	65·9	114·4	19·5
136	64·3	7·5	20·1	208	97·0	8·3	14·6	2,399	73·9	135·3	20·6
1,221	576·9	55·9	16·7	1,226	571·7	53·6	16·0	14,058	433·2	659·2	17·1

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT. 1931.

Type of unit.		Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	243·9	0·9	5·4	10·8	16·1	492·1	2·0	2·3	19·8	14·7	309·3	1·2	4·6	13·3	15·5
	Injury	77·9	4·7	0·6	4·2	19·7	92·0	4·8	0·3	4·3	17·3	81·6	4·7	0·5	4·3	19·0
	Total	321·8	5·6	6·0	15·0	17·0	584·1	6·8	2·5	24·1	15·1	390·9	5·9	5·1	17·6	16·2
Depôts (store and repair), ground schools and armoured car companies	Disease	402·6	1·3	9·0	19·6	17·7	410·3	1·0	3·2	18·7	16·6	404·9	1·2	7·2	19·3	17·4
	Injury	71·9	0·6	0·6	4·4	22·5	62·4	1·0	—	2·4	14·1	69·0	0·7	0·4	3·8	20·1
	Total	474·5	1·9	9·6	24·0	18·5	472·7	2·0	3·2	21·1	16·3	473·9	1·9	7·6	23·1	17·8
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	381·2	2·6	12·4	17·0	16·3	448·7	2·1	4·6	20·7	16·9	398·6	2·5	10·3	17·9	16·5
	Injury	64·5	2·3	1·2	4·8	27·2	67·1	1·5	0·5	3·5	19·4	65·1	2·1	1·0	4·5	25·1
	Total	445·7	4·9	13·6	21·8	17·9	515·8	3·5	5·0	24·2	17·2	463·7	4·6	11·4	22·4	17·7
All units	Disease	322·9	1·4	8·1	14·8	16·7	454·8	1·7	3·1	19·6	15·7	359·3	1·5	6·7	16·1	16·4
	Injury	73·0	2·9	0·8	4·4	22·1	76·5	2·8	0·2	3·5	16·8	73·9	2·9	0·6	4·2	20·6
	Total	395·9	4·4	8·9	19·2	17·7	531·3	4·5	3·3	23·1	15·9	433·2	4·4	7·4	20·3	17·1

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS. 1931.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Aircrafthands	51·3	95·7	24·8	13·7	45·5	198·5	429·5	74·0	503·5
Apprentices	25·1	111·6	—	15·2	74·8	172·9	399·6	43·8	443·4
Carpenters and riggers ..	40·8	78·2	14·5	10·6	34·4	158·9	337·4	85·4	422·8
Clerks	30·4	53·0	15·7	10·7	32·7	157·4	299·9	62·7	362·6
Drivers	37·1	71·8	16·7	11·7	30·0	191·9	359·2	75·5	434·7
Fitters	37·0	71·1	13·7	10·3	29·3	143·3	304·7	79·7	384·4
Metal workers	40·3	76·3	17·8	15·2	43·4	213·8	406·7	102·8	509·5
Officers, cadets and airman pilots	59·4	56·3	6·9	11·6	49·9	141·7	325·8	92·0	417·8
Other skilled trades.. ..	33·8	71·8	15·7	16·5	41·8	167·8	347·5	52·8	400·3
Total force	40·9	77·5	14·7	12·8	42·6	170·8	359·3	73·9	433·2

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TABLE X.—INJURIES. 1931.

—	Number of cases.							
	Airscrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	23	895	147	19	19	320	1,423	*60*
Off duty	1	155	1	387	5	319	868	*36*
Not stated	—	39	—	4	—	43	86	*4*
Total	24	1,089	148	410	24	682	2,377	*100*
Nature of injury:								
General	3	7	99	109	—	25	243	*10*
Head or face ..	6	92	24	104	1	103	330	*14*
Trunk	—	55	4	18	2	39	118	*5*
Upper extremity .	12	141	15	50	19	168	405	*17*
Lower extremity .	3	794	6	129	2	347	1,281	*54*
Total	24	1,089	148	410	24	682	2,377	*100*
Deaths:								
On duty	1	—	68	1	—	—	70	*75*
Off duty	—	1	—	19	—	3	23	*25*
Total	1	1	68	20	—	3	93	*100*

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TABLE XI.—FLYING CASUALTIES ON DUTY.

Rank.	Number of casualties.			
	1928.	1929.	1930.	1931.
Officers.				
Killed	*36*	*23*	*36* (*5*)	40
Injured	*45*	*62*	*41* (*1*)	39
Cadets.				
Killed	*1*	—	*3*	3
Injured	*3*	*4*	*1*	2
Airmen.				
Killed	*28*	*16*	*29* (*1*)	25
Injured	*44*	*34*	*34*	38
All ranks.				
Killed	*65*	*39*	*68* (*6*)	68
Injured	*92*	*100*	*76* (*1*)	79
Total casualties	*157*	*139*	*144* (*7*)	147
Deaths—as a percentage of total flying casualties ..	*41*	*28*	*47*	46
Average duration of each case (days) :—				
Deaths included	*23*	*33*	*31*	25
Deaths excluded	*40*	*46*	*58*	46

Note.—The numbers in brackets represent casualties in accidents to airships (6 deaths) or kite balloons (one injured).

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.
Diseases caused by infection.						Days.							Days.						Days.
Diphtheria	35	2	—	1·5	4·7	49·1	2	—	—	—	0·2	0·2	38·0	37	2	—	1·1	4·9	48·5
*Dysentery	3	—	—	0·1	0·2	24·3	77	1	4	—	8·6	5·4	25·8	80	1	—	2·5	5·6	25·8
*Enteric group	—	—	—	—	—	—	27	1	3	—	3·0	5·1	68·6	27	1	—	0·8	5·1	68·6
*Enteritis (acute) and gastro-enteritis (acute)	55	—	—	2·3	1·0	6·9	248	—	—	—	27·7	4·6	6·8	303	—	—	9·3	5·6	6·8
*Influenza (including influenzal pneumonia)	1,132	—	—	48·2	22·6	7·3	196	—	—	—	21·9	3·4	6·4	1,328	—	—	40·9	26·0	7·1
Leishmaniasis	—	—	—	—	—	—	1	—	—	—	0·1	0·1	40·0	1	—	—	0·0	0·1	40·0
*Malaria	47	—	—	2·0	2·7	20·7	335	—	—	—	37·4	10·9	11·8	382	—	—	11·8	13·5	12·9
Measles	12	—	—	0·5	0·6	17·4	4	—	—	—	0·4	0·2	20·0	16	—	—	0·5	0·8	18·1
Mumps	26	—	—	1·1	1·7	23·5	2	—	—	—	0·2	0·1	21·5	28	—	—	0·9	1·8	23·3
Pneumonia	26	2	—	1·1	2·2	31·3	20	1	—	—	2·2	1·3	23·6	46	3	—	1·4	3·5	28·0
*Pyrexia of unknown origin	16	—	—	0·7	0·4	10·0	19	—	—	—	2·1	0·8	16·0	35	—	—	1·1	1·3	13·3
Rheumatism (acute) ..	48	1	5	2·0	5·3	40·1	6	—	1	1	0·7	0·5	31·2	54	1	6	1·7	5·8	39·1
Rubella	9	—	—	0·4	0·4	16·2	1	—	—	—	0·1	0·1	22·0	10	—	—	0·3	0·5	16·8
*Sandfly fever	—	—	—	—	—	—	454	—	—	—	50·7	9·2	7·4	454	—	—	14·0	9·2	7·4
Scarlet fever	18	—	—	0·8	2·2	44·8	—	—	—	—	—	—	—	18	—	—	0·6	2·2	44·8
Tuberculosis.																			
Respiratory	17	—	15	0·7	2·3	48·4	6	—	5	4	0·7	1·4	82·5	23	—	19	0·7	3·6	57·3
Other	5	2	4	0·2	0·8	54·8	3	—	4	2	0·3	1·1	134·0	8	2	6	0·2	1·9	84·5
*TOTAL—TUBERCULOSIS	22	2	19	0·9	3·0	49·9	9	—	9	6	1·0	2·5	99·7	31	2	25	1·0	5·5	64·3

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Acute upper air passage infections.																			
Laryngitis	43	—	1	1·8	1·1	9·3	6	—	—	—	0·7	0·1	6·2	49	—	—	1·5	1·2	9·0
Pharyngitis and naso-pharyngitis	1,021	—	—	43·5	19·6	7·0	391	—	—	—	43·7	6·2	5·8	1,412	—	—	43·5	25·8	6·7
Rhinitis, acute catarrhal	83	—	—	3·5	1·4	6·2	34	—	—	—	3·8	0·5	5·2	117	—	—	3·6	1·9	5·9
Tonsillitis (including quinsy and Vincent's angina)	636	—	—	27·1	15·9	9·1	302	1	—	—	33·7	6·5	7·9	938	1	—	28·9	22·4	8·7
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	1,783	—	1	75·9	38·0	7·8	733	1	—	—	81·8	13·3	6·6	2,516	1	1	77·5	51·3	7·4
Vaccinia	99	—	—	4·2	1·5	5·5	—	—	—	—	—	—	—	99	—	—	3·1	1·5	5·5
Venereal disease.																			
Gonorrhœa	197	—	1	8·4	36·3	67·2	155	—	1	—	17·3	25·9	61·1	352	—	1	10·8	62·2	64·5
Syphilis	43	—	2	1·8	5·5	46·4	25	—	—	—	2·8	3·1	44·6	68	—	2	2·1	8·5	45·8
Soft chancre	5	—	—	0·2	0·3	19·4	51	—	—	—	5·7	5·7	40·9	56	—	—	1·7	6·0	39·0
*TOTAL—VENEREAL DISEASES	245	—	3	10·4	42·0	62·6	231	—	1	—	25·8	34·7	54·8	476	—	3	14·7	76·7	58·8
Abscess, hand and finger	30	—	—	1·3	0·8	9·2	5	—	—	—	0·6	0·2	17·0	35	—	—	1·1	1·0	10·3
Abscess, other	45	—	2	1·9	2·3	18·7	20	—	—	—	2·2	0·7	13·3	65	—	2	2·0	3·0	17·0
Boils	115	—	—	4·9	2·8	9·0	76	—	—	—	8·5	1·7	8·3	191	—	—	5·9	4·5	8·7
Carbuncles	22	—	—	0·9	0·6	10·1	9	—	—	—	1·0	0·3	8·8	31	—	—	1·0	0·9	9·7
Cellulitis	268	—	—	11·4	7·6	10·4	171	—	—	—	19·1	4·7	10·0	439	—	—	13·5	12·3	10·2
Lymphadenitis and lymphangitis	41	—	1	1·7	2·5	22·1	31	—	—	—	3·5	1·3	14·9	72	—	1	2·2	3·7	19·0
Osteo-myelitis, periostitis, and osteitis	10	—	—	0·4	0·7	24·1	2	—	2	—	0·2	1·2	224·5	12	—	—	0·4	1·9	57·5
Pyæmia, septicæmia ..	7	4	—	0·3	0·7	35·9	4	2	—	—	0·4	0·2	15·8	11	6	—	0·3	0·9	28·5
Ulcer	7	—	—	0·3	0·4	22·4	6	—	—	—	0·7	0·3	16·3	13	—	—	0·4	0·7	19·6
Other diseases caused by infection	37	10	2	1·6	2·9	28·5	24	2	—	—	2·7	0·8	12·0	61	12	2	1·9	3·7	22·0
*TOTAL—DISEASES CAUSED BY INFECTION	4,158	21	33	177·0	149·7	13·1	2,713	8	20	7	302·9	103·8	14·0	6,871	29	40	211·8	253·5	13·5

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.—*continued.*

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total Force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers ..	127	—	2	5·4	7·6	21·8	10	—	—	—	1·1	0·4	13·1	137	—	2	4·2	7·9	21·2
Effects of parasites ..	30	—	—	1·3	1·7	20·1	22	—	6	—	2·5	2·0	33·0	52	—	—	1·6	3·6	25·6
Other diseases classified by systems. *Diseases of nervous system and brain.*																			
Neuritis	29	—	—	1·2	2·2	27·3	10	—	3	1	1·1	1·1	40·5	39	—	1	1·2	3·3	30·7
Nerve paralysis	6	—	—	0·3	0·7	40·0	—	—	—	—	—	—	—	6	—	—	0·2	0·7	40·0
Epilepsy (including observation cases)	16	—	12	0·7	1·5	34·6	2	—	1	1	0·2	0·2	30·0	18	—	13	0·6	1·7	34·1
Psychoneurosis	41	—	26	1·7	4·1	36·2	34	—	13	6	3·8	5·2	55·8	75	—	32	2·3	9·3	45·1
Mental diseases (including observation cases) ..	12	1	10	0·5	2·8	84·7	6	1	5	5	0·7	1·9	116·7	18	2	15	0·6	4·7	95·3
Other diseases of nervous system	46	1	12	2·0	3·7	29·0	24	—	3	—	2·7	1·1	16·2	70	1	12	2·2	4·7	24·6
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	150	2	60	6·4	14·9	36·1	76	1	25	13	8·5	9·4	45·4	226	3	73	7·0	24·3	39·3

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Diseases of the Eye.																		
Infections	91	—	4	3·9	4·5	18·2	26	—	1	—	2·9	0·9	12·7	117	—	4	3·6	5·4	16·9
Other diseases of the eye	26	—	5	1·1	2·2	30·8	15	—	5	1	1·7	1·2	28·9	41	—	6	1·3	3·4	30·1
TOTAL—DISEASES OF THE EYE	117	—	9	5·0	6·7	21·0	41	—	6	1	4·6	2·1	18·6	158	—	10	4·9	8·8	20·4
Diseases of ear and nose.																			
Otitis media, acute ..	36	—	—	1·5	2·1	21·6	46	—	—	—	5·1	1·4	10·8	82	—	—	2·5	3·5	15·5
Otitis media, chronic ..	26	—	7	1·1	2·8	38·9	9	—	6	1	1·0	2·1	86·3	35	—	8	1·1	4·9	51·1
Other diseases of ear and nose	126	1	1	5·4	6·3	18·3	94	—	2	—	10·5	3·2	12·6	220	1	1	6·8	9·6	15·9
TOTAL—DISEASES OF EAR AND NOSE	188	1	8	8·0	11·2	21·8	149	—	8	1	16·6	6·7	16·5	337	1	9	10·4	17·9	19·4
Diseases of the circulatory system.																			
Endocarditis, acute ..	3	1	1	0·1	0·7	81·7	—	—	—	—	—	—	—	3	1	1	0·1	0·7	81·7
Valvular disease of the heart	6	—	4	0·3	0·5	31·7	2	1	1	—	0·2	0·1	19·5	8	1	4	0·2	0·6	28·6
Disease of myocardium ..	6	—	—	0·3	0·5	28·5	4	1	—	—	0·4	0·2	15·8	10	1	—	0·3	0·6	23·4
Disordered action of the heart	30	2	8	1·3	1·8	22·4	13	—	4	—	1·5	1·2	33·4	43	2	8	1·3	3·0	25·7
Varix	30	—	1	1·3	1·8	22·1	4	—	—	—	0·4	0·3	23·8	34	—	1	1·0	2·1	22·3
Other diseases of the circulatory system ..	16	—	2	0·7	0·9	20·6	4	—	1	—	0·4	0·6	53·0	20	—	2	0·6	1·5	27·1
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	91	3	16	3·9	6·2	25·0	27	2	6	—	3·0	2·3	31·2	118	5	16	3·6	8·5	26·4
Diseases of lymphatic system and ductless glands	13	—	1	0·6	0·9	25·5	2	—	—	—	0·2	0·3	51·0	15	—	1	0·5	1·2	28·9

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.—*continued.*

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total Force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory system. (*a*)																			
Bronchitis	124	—	4	5·3	6·8	20·0	46	—	2	—	5·1	2·8	22·2	170	—	4	5·2	9·6	20·6
Tracheitis	101	—	—	4·3	1·9	6·8	65	—	—	—	7·3	1·2	6·7	166	—	—	5·1	3·1	6·8
Asthma	8	—	3	0·3	0·9	39·8	3	—	2	1	0·3	0·6	72·7	11	—	4	0·3	1·5	48·7
Pleurisy	36	—	5	1·5	3·9	39·7	18	—	1	—	2·0	0·9	19·1	54	—	5	1·7	4·9	32·8
Other diseases of the respiratory system ..	10	1	3	0·4	1·5	53·1	4	—	3	—	0·4	0·8	68·8	14	1	3	0·4	2·2	57·6
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	279	1	15	11·9	14·9	19·5	136	—	8	1	15·2	6·3	16·8	415	1	16	12·8	21·2	18·6
Diseases of teeth and gums	54	—	—	2·3	1·8	12·2	16	—	—	—	1·8	0·5	10·4	70	—	—	2·2	2·3	11·8
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	235	—	—	10·0	8·9	13·8	20	—	—	—	2·2	0·9	16·0	255	—	—	7·9	9·8	14·0
Gastritis, acute	93	—	—	4·0	2·4	9·3	43	—	—	—	4·8	0·8	6·4	136	—	—	4·2	3·1	8·4
Gastritis, chronic ..	13	—	2	0·6	1·2	34·2	5	—	2	1	0·6	0·6	42·2	18	—	3	0·6	1·8	36·4

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Dyspepsia	35	—	—	1·5	1·8	18·4	12	—	—	—	1·3	0·4	11·5	47	—	—	1·4	2·1	16·7
Appendicitis	331	2	—	14·1	19·9	21·9	50	—	3	—	5·6	3·4	24·9	381	2	—	11·7	23·3	22·3
Hernia	66	—	2	2·8	5·3	29·2	12	—	1	—	1·3	0·8	24·3	78	—	2	2·4	6·1	28·4
Constipation	47	—	—	2·0	0·9	6·9	54	—	—	—	6·0	1·0	7·0	101	—	—	3·1	1·9	6·9
Colic	22	—	—	0·9	0·4	6·3	8	—	—	—	0·9	0·1	5·6	30	—	—	0·9	0·5	6·1
Hæmorrhoids	48	—	—	2·0	2·2	16·5	34	—	—	—	3·8	1·8	19·3	82	—	—	2·5	4·0	17·7
Jaundice	18	—	—	0·8	1·2	24·8	51	—	—	—	5·7	3·1	22·1	69	—	—	2·1	4·3	22·8
Other diseases of the digestive system	132	2	8	5·6	10·7	29·7	53	1	3	—	5·9	3·2	22·2	185	3	8	5·7	14·0	27·6
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	1,040	4	12	44·3	54·8	19·2	342	1	9	1	38·2	16·1	17·2	1,382	5	13	42·6	70·9	18·7
Diseases due to disorders of nutrition or metabolism	13	—	4	0·6	1·1	31·2	3	—	2	2	0·3	1·4	165·0	16	—	6	0·5	2·5	56·3
Diseases of the Generative System.																			
Phimosis	33	—	—	1·4	1·6	18·1	18	—	—	—	2·0	0·7	14·5	51	—	—	1·6	2·3	16·8
Balanitis	16	—	—	0·7	0·6	13·1	7	—	—	—	0·8	0·3	14·9	23	—	—	0·7	0·9	13·6
Urethritis	65	—	—	2·8	8·0	45·0	33	—	—	—	3·7	2·2	24·9	98	—	—	3·0	10·3	38·2
Varicocele	17	—	—	0·7	1·2	26·5	12	—	—	—	1·3	0·7	21·4	29	—	—	0·9	1·9	24·4
Hydrocele	5	—	—	0·2	0·5	37·0	3	—	—	—	0·3	0·2	20·7	8	—	—	0·2	0·7	30·9
Epididymitis	8	—	—	0·3	0·5	23·8	7	—	—	—	0·8	0·3	16·1	15	—	—	0·5	0·8	20·2
Other diseases of the generative system	27	—	—	1·1	1·6	21·7	15	—	1	—	1·7	0·5	12·4	42	—	—	1·3	2·1	18·4
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	171	—	—	7·3	14·1	30·1	95	—	1	—	10·6	4·9	19·0	266	—	—	8·2	19·0	26·1

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 44.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.—*continued.*

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total Force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	18	—	6	0·8	3·3	67·1	1	—	1	1	0·1	0·4	132·0	19	—	7	0·6	3·7	70·5
Diseases of the joints ..	87	—	8	3·7	7·6	31·8	33	—	4	—	3·7	3·2	35·6	120	—	8	3·7	10·8	32·8
Myalgia and lumbago ..	80	—	—	3·4	2·3	10·6	41	—	2	—	4·6	1·0	9·3	121	—	—	3·7	3·4	10·1
Diseases of muscles, tendons and bursæ ..	61	—	—	2·6	2·7	16·1	34	—	—	—	3·8	1·4	15·4	95	—	—	2·9	4·1	15·9
Deformities of limbs ..	33	—	9	1·4	2·3	25·6	4	—	1	—	0·4	0·4	40·8	37	—	9	1·1	2·8	27·3
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	279	—	23	11·9	18·2	23·8	113	—	8	1	12·6	6·5	21·0	392	—	24	12·1	24·7	23·0
Diseases of Areolar Tissue or Skin.																			
Impetigo	171	—	—	7·3	8·2	17·5	57	—	—	—	6·4	1·9	12·1	228	—	—	7·0	10·1	16·1
Scabies	74	—	—	3·2	2·0	9·9	3	—	—	—	0·3	0·1	10·3	77	—	—	2·4	2·1	9·9
Dermatitis	50	—	—	2·1	2·8	20·6	26	—	—	—	2·9	1·5	21·5	76	—	—	2·3	4·4	20·9
Urticaria	22	—	—	0·9	0·5	9·1	6	—	—	—	0·7	0·1	8·1	28	—	—	0·9	0·7	8·9
Eczema	23	—	—	1·0	1·8	28·5	5	—	1	—	0·6	0·7	52·8	28	—	—	0·9	2·5	32·9
Herpes	32	—	—	1·4	1·3	14·4	17	—	—	—	1·9	0·4	8·8	49	—	—	1·5	1·7	12·5
Psoriasis	11	—	1	0·5	0·7	24·1	2	—	—	—	0·2	0·1	18·0	13	—	1	0·4	0·8	23·2
Tinea cruris	118	—	—	5·0	4·1	12·8	16	—	—	—	1·8	0·3	7·8	134	—	—	4·1	4·5	12·2

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Ingrowing toe-nail ..	31	—	—	1·3	1·1	13·5	25	—	—	—	2·8	1·0	14·6	56	—	—	1·7	2·1	14·0
Other diseases of the skin	122	—	—	5·2	8·4	25·3	41	—	—	—	4·6	2·1	18·9	163	—	—	5·0	10·6	23·7
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	654	—	1	27·8	31·1	17·3	198	—	1	—	22·1	8·3	15·4	852	—	1	26·3	39·4	16·9
Diseases of Urinary Organs.																			
Nephritis	9	—	2	0·4	1·3	51·3	1	—	1	1	0·1	0·6	203·0	10	—	3	0·3	1·8	66·5
Pyelitis	6	—	—	0·3	0·6	36·8	1	—	—	—	0·1	0·0	18·0	7	—	—	0·2	0·7	34·1
Cystitis	16	—	—	0·7	1·5	33·4	13	—	—	—	1·5	0·7	18·5	29	—	—	0·9	2·1	26·8
Incontinence of urine ..	2	—	—	0·1	0·1	15·0	—	—	—	—	—	—	—	2	—	—	0·1	0·1	15·0
Albuminuria	12	—	—	0·5	0·8	25·8	5	—	—	—	0·6	0·3	23·2	17	—	—	0·5	1·2	25·1
Other diseases of urinary organs	37	—	2	1·6	3·0	29·8	19	—	—	—	2·1	0·9	17·0	56	—	2	1·7	3·9	25·4
TOTAL—DISEASES OF URINARY ORGANS ..	82	—	4	3·5	7·3	32·4	39	—	1	1	4·4	2·5	23·1	121	—	5	3·7	9·8	29·4
Tumours and Cysts.																			
Tumours, non-malignant	17	—	1	0·7	1·3	28·6	5	—	—	—	0·6	0·2	15·2	22	—	1	0·7	1·5	25·5
Tumours, malignant ..	5	1	2	0·2	1·1	83·4	—	1	1	—	—	0·2	—	5	2	2	0·2	1·3	95·2
Cysts	32	—	—	1·4	1·0	11·8	5	—	—	—	0·6	0·1	9·6	37	—	—	1·1	1·2	11·5
TOTAL—TUMOURS AND CYSTS	54	1	3	2·3	3·5	23·7	10	1	1	—	1·1	0·5	18·3	64	2	3	2·0	4·0	22·9
Poisons.																			
Effects of alcohol ..	1	—	—	0·0	0·0	4·0	1	—	—	—	0·1	0·0	3·0	2	—	—	0·1	0·0	3·5
Other poisons	11	1	—	0·5	0·1	4·8	55	2	—	—	6·1	1·4	9·4	66	3	—	2·0	1·6	8·6
TOTAL—POISONS	12	1	—	0·5	0·2	4·8	56	2	—	—	6·3	1·4	9·3	68	3	—	2·1	1·6	8·5
No appreciable disease ..	54	—	—	2·3	1·6	10·7	17	—	—	—	1·9	0·5	9·9	71	—	—	2·2	2·0	10·5
Debility	20	—	—	0·9	0·6	10·2	8	—	—	—	0·9	0·1	6·3	28	—	—	0·9	0·7	9·1
TOTAL—ALL DISEASES	7,586	34	191	322·9	348·0	16·7	4,073	15	102	28	454·8	175·9	15·7	11,659	49	219	359·3	523·9	16·4

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.—*continued.*

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total Force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
General Injuries.						Days.							Days.						Days.
Burns and scalds ..	9	1	1	0·4	1·8	71·1	2	—	—	—	0·2	0·0	7·5	11	1	1	0·3	1·8	59·5
Heat exhaustion, heat hyperpyrexia and sunstroke	1	—	—	0·0	0·0	5·0	15	1	—	—	1·7	0·3	6·6	16	1	—	0·5	0·3	6·5
Drowning and effects of immersion	12	12	—	0·5	—	—	1	1	—	—	0·1	—	—	13	13	—	0·4	—	—
Minor injuries	85	—	—	3·6	2·2	9·4	19	—	—	—	2·1	0·6	11·5	104	—	—	3·2	2·8	9·8
Multiple fractures ..	84	43	9	3·6	13·9	60·3	28	19	1	—	3·1	1·9	24·5	112	62	9	3·5	15·8	51·4
Multiple wounds	2	—	—	0·1	0·1	23·5	—	—	—	—	—	—	—	2	—	—	0·1	0·1	23·5
Other injuries	3	—	—	0·1	0·1	10·7	1	—	—	—	0·1	0·0	4·0	4	—	—	0·1	0·1	9·0
*TOTAL—GENERAL INJURIES	196	56	10	8·3	18·1	33·6	66	21	1	—	7·4	2·8	15·5	262	77	10	8·1	20·9	29·0
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds ..	88	—	—	3·7	2·5	10·4	40	1	3	—	4·5	1·5	13·6	128	1	—	3·9	4·0	11·4
Gunshot wounds	—	—	—	—	—	—	1	—	—	—	0·1	0·0	7·0	1	—	—	0·0	0·0	7·0
Burns and scalds ..	8	—	—	0·3	0·2	10·7	5	—	—	—	0·6	0·3	19·4	13	—	—	0·4	0·5	14·1
Fracture of skull ..	20	8	3	0·9	2·3	42·3	10	3	4	1	1·1	1·2	43·2	30	11	4	0·9	3·5	42·6
Concussion of brain ..	100	—	—	4·3	6·0	21·9	20	—	—	—	2·2	1·1	19·5	120	—	—	3·7	7·1	21·5
Other fractures	14	—	—	0·6	0·4	9·8	8	—	1	—	0·9	0·6	26·1	22	—	—	0·7	0·9	15·7
Other injuries	18	—	—	0·8	0·7	14·2	8	—	1	—	0·9	0·3	15·6	26	—	—	0·8	1·0	14·7
TOTAL—HEAD AND NECK	248	8	3	10·6	12·1	17·8	92	4	9	1	10·3	4·9	19·6	340	12	4	10·5	17·1	18·3

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(ii) Trunk:																			
Contusions and wounds..	50	2	—	2·1	1·9	13·9	13	—	—	—	1·5	0·5	12·9	63	2	—	1·9	2·4	13·7
Fractures	15	1	1	0·6	1·6	38·6	3	—	1	—	0·3	0·5	62·3	18	1	1	0·6	2·1	42·6
Other injuries	18	2	—	0·8	0·4	8·0	9	—	—	—	1·0	0·1	5·7	27	2	—	0·8	0·5	7·2
TOTAL—TRUNK	83	5	1	3·5	3·9	17·1	25	—	1	—	2·8	1·1	16·2	108	5	1	3·3	5·0	16·9
(iii) Upper Extremity:																			
Contusions and wounds..	99	—	1	4·2	5·3	19·7	36	—	—	—	4·0	1·1	11·3	135	—	1	4·2	6·5	17·5
Burns and scalds ..	14	—	—	0·6	0·4	11·1	8	—	—	—	0·9	0·3	15·9	22	—	—	0·7	0·8	12·8
Fractures..	126	—	—	5·4	11·4	32·9	55	—	2	—	6·1	4·3	28·8	181	—	—	5·6	15·7	31·7
Dislocations	14	—	—	0·6	1·3	34·2	5	—	—	—	0·6	0·2	14·2	19	—	—	0·6	1·5	29·0
Sprains	22	—	—	0·9	0·8	13·6	7	—	—	—	0·8	0·2	8·7	29	—	—	0·9	1·0	12·4
Other injuries	16	—	—	0·7	0·7	14·9	3	—	—	—	0·3	0·2	27·7	19	—	—	0·6	0·9	16·9
TOTAL—UPPER EXTREMITY	291	—	1	12·4	19·9	25·0	114	—	2	—	12·7	6·4	20·5	405	—	1	12·5	26·3	23·7
(iv) Total—Hand and Wrist	114	—	—	4·9	7·1	22·8	44	—	—	—	4·9	1·4	11·7	158	—	—	4·9	8·5	19·7
(v) Total—Rest of Limb	177	—	1	7·5	12·8	26·4	70	—	2	—	7·8	5·0	26·0	247	—	1	7·6	17·8	26·3
(vi) Lower Extremity:																			
Contusions and wounds..	192	—	—	8·2	6·4	12·2	79	—	—	—	8·8	2·2	10·2	271	—	—	8·4	8·6	11·6
Gunshot wounds.. ..	3	—	—	0·1	0·2	22·3	—	—	—	—	—	—	—	3	—	—	0·1	0·2	22·3
Burns and scalds ..	8	—	1	0·3	1·1	49·5	12	—	1	—	1·3	1·2	36·4	20	—	1	0·6	2·3	41·6
Fractures..	107	—	2	4·6	20·4	69·5	38	—	2	1	4·2	4·3	41·4	145	—	3	4·5	24·7	62·1
Dislocations	5	—	—	0·2	0·5	33·6	—	—	—	—	—	—	—	5	—	—	0·2	0·5	33·6
Sprains	322	—	—	13·7	12·0	13·6	141	—	2	—	15·7	4·5	11·6	463	—	—	14·3	16·4	13·0
Other injuries	259	—	—	11·0	9·2	13·0	118	—	—	—	13·2	4·1	12·8	377	—	—	11·6	13·4	13·0
TOTAL—LOWER EXTREMITY	896	—	3	38·1	49·7	20·2	388	—	5	1	43·3	16·3	15·4	1,284	—	4	39·6	66·0	18·8

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1931.—*continued.*

Disease.	Home. Average strength, 23,492.						Abroad. Average strength, 8,956.							Total Force. Average strength, 32,448.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) TOTAL—FOOT AND ANKLE	364	—	2	15·5	12·0	12·1	162	—	—	—	18·1	4·5	10·1	526	—	2	16·2	16·5	11·5
(viii) TOTAL—KNEE ..	301	—	—	12·8	14·4	17·5	141	—	2	—	15·7	6·0	15·6	442	—	—	13·6	20·5	16·9
(ix) TOTAL—REST OF LIMB..	231	—	1	9·8	23·2	36·7	85	—	3	1	9·5	5·8	25·0	316	—	2	9·7	29·0	33·5
*TOTAL—ALL LOCAL INJURIES	1,518	13	8	64·6	85·6	20·6	619	4	17	2	69·1	28·8	17·0	2,137	17	10	65·9	114·4	19·5
*TOTAL—ALL INJURIES ..	1,714	69	18	73·0	103·7	22·1	685	25	18	2	76·5	31·6	16·8	2,399	94	20	73·9	135·3	20·6
*TOTAL—ALL DISEASES ..	7,586	34	191	322·9	348·0	16·7	4,073	15	102	28	454·8	175·9	15·7	11,659	49	219	359·3	523·9	16·4
*TOTAL—ALL DISABILITIES	9,300	103	209	395·9	451·7	17·7	4,758	40	120	30	531·3	207·5	15·9	14,058	143	239	433·2	659·2	17·1

* Analysed in further detail in table VII.

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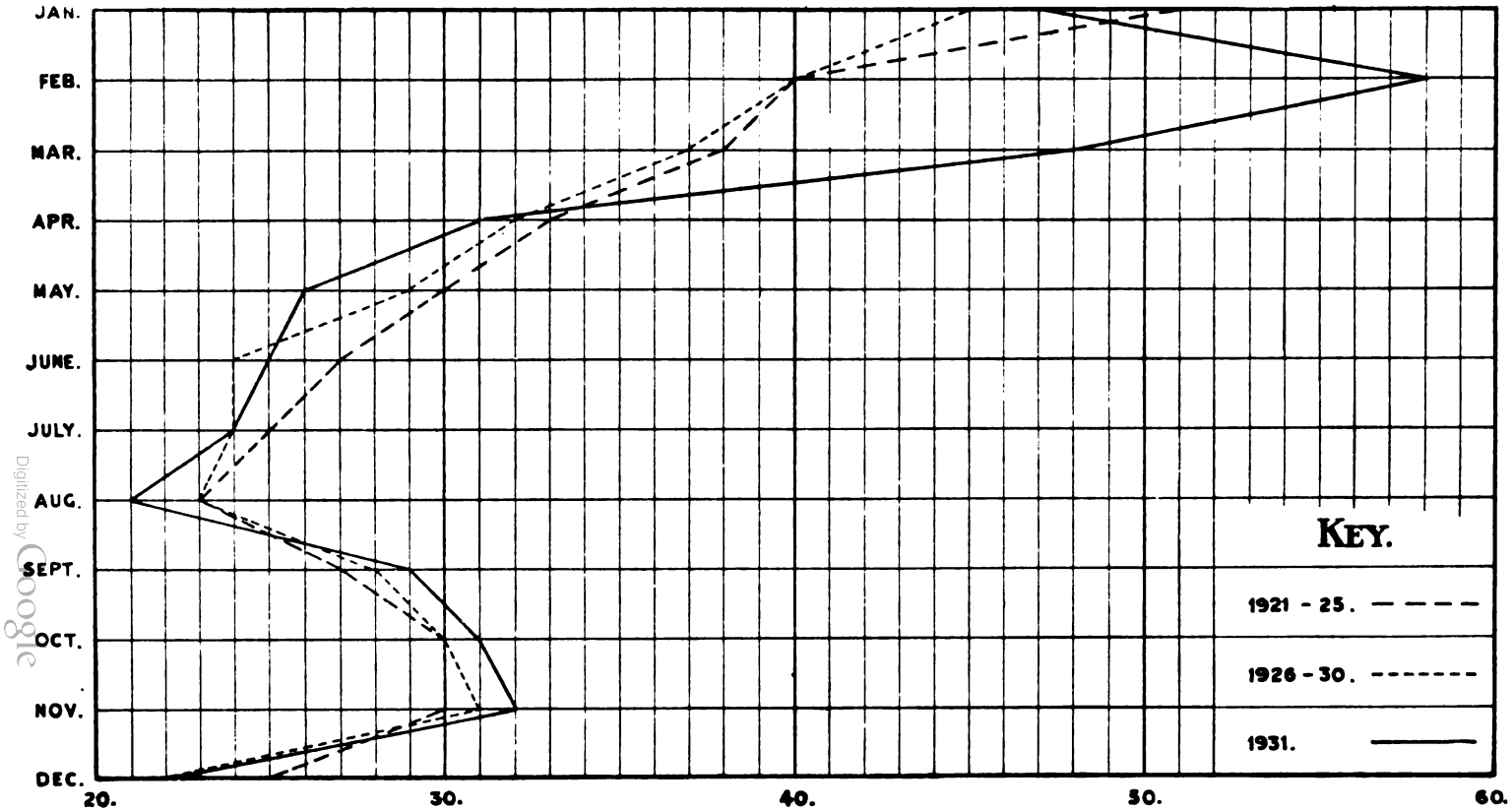
CHART 1. SICKNESS AT HOME, 1931.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1000 OF STRENGTH.



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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1931.

General.

40. The incidence of total sickness at home units, excluding the Fleet Air Arm, was 582·6 per 1,000 of strength compared with 514·3 in 1930 and averages over the two preceding periods of 578·9 and 839·3 per 1,000. These figures include both admissions to hospitals and sick quarters and cases of less than 48 hours' duration which were not admitted to either hospitals or sick quarters for treatment. Excluding the cases of less than 48 hours' duration, the admission rate for 1931 was 395·4, compared with 350·2 in 1930, and average incidences of 366·1 and 380·2 per 1,000 during the two preceding periods. The number of sick daily, including cases not admitted to hospitals and sick quarters, was 20·0 per 1,000 in 1931, the same incidence as in 1930, while excluding cases of less than 48 hours' duration, the constantly sick figure was 19·1 in 1931, compared with 19·5 per 1,000 in 1930. The average number of days' sickness per head, both including and excluding cases not admitted, was practically the same, comparing 1931 with 1930 and the two preceding periods. Excluding cases of less than 48 hours' duration, the average duration of each case in days was 17·8 in 1931 compared with 20·2 in 1930 and averages of 19·9 and 17·8 days during the two preceding periods. The increase in the sickness incidence in 1931 from 1930 is due mainly to a rise in the incidence of diseases caused by infection from 139·0 in 1930 to 177·0 per 1,000 in 1931. The actual diseases which accounted for this rise were, firstly, influenza, the incidence of which rose to 48·2 in 1931 from 10·6 per 1,000 in 1930; and secondly, upper air passage infections, with a rise of incidence to 75·9 in 1931 compared with 63·6 per 1,000 in 1930. It is also to be noted that the incidence of appendicitis rose from 9·4 in 1930 to 14·1 per 1,000 in 1931, and that of " contacts and carriers " from 3·3 in 1930 to 5·4 per 1,000 in 1931. The latter rise of incidence was contributed to mainly by the contacts and carriers of the epidemic of cerebro-spinal fever occurring at Uxbridge during 1931. The death rate rose from 3·7 per 1,000 of strength in 1930 and averages of 3·5 and 3·2 for the two preceding periods to 4·3 per 1,000 in 1931, and the rise was accounted for by the 10 deaths as a result of cerebro-spinal fever referred to in paragraph 14. The final invaliding rate rose from 7·0 in 1930 to 8·9 per 1,000 in 1931, and compares with averages of 8·1 and 12·9 per 1,000 for the two preceding periods.

41. Table XIII, page 43, analyses by age groups of airmen, total airmen, officers and cadets, and the total at home, those diseases shown in table XII, page 28, to have been responsible

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for most of the medical non-effectiveness during 1931. Table XIII also serves as a means of analysing in detail the incidence of disease at home in age groups given in table V, page 20. In the age groups for airmen, disease incidence is greatest in the apprentices group, i.e., under 18 years, and gets progressively lower until age 29. Among airmen, injury incidence, as in previous years, reaches a peak in the years 20 to 23. Disease incidence in the officers and cadets group is less than the total airmen group, but this position is reversed in respect of injury incidence. Table XIII also shows among airmen the steady progressive decrease, as in previous years, in the incidence of upper air passage infections with increasing age, and the high influenzal rate among officers and cadets—71·3 compared with 45·4 per 1,000 in total airmen. In the apprentice group, upper air passage infections are the greatest source of sickness, accounting for 30 per cent. of all diseases and 27 per cent. of all disabilities in this group. Diseases of the digestive system, as in previous years, rank next in producing medical non-effectiveness among apprentices, and are also more prevalent in this group than in any group including officers and cadets. As in former years the incidence of venereal diseases among airmen is greatest between the ages of 22 and 27.

42. Table XIV, page 44, analyses the distribution of the same diseases as in table XIII by the larger stations which have maintained an average strength of 500 or over during the year. The stations are the same in 1931 as those analysed in 1930, except that Eastchurch, Netheravon and Sealand have been left out owing to lowered strengths, and Felixstowe has been included. The table shows that the greatest incidence of all disabilities was at Digby, 582·0 per 1,000. In 1930, this station, excluding Eastchurch, showed the second lowest all-disabilities incidence, and the position of Digby at the head of the list in 1931 is accounted for chiefly by the high incidence of influenza—232·0 per 1,000 compared with 48·2 per 1,000 for the total at home—and in part by the station occupying the second highest place in the incidence of injury with 94·0 per 1,000. Digby is followed in the incidence of all disabilities by Cranwell (528·3), Gosport (524·7), and Manston (510·2). Other points of note are the high influenzal rate at Gosport and the high incidence of upper air passage infections at Manston. In 1930 the incidences and places in the list of these stations, excluding the stations which have been left out during 1931, were Cranwell (406·6, third), Gosport (309·9, seventh), and Manston (463·3, first). In 1931, Calshot shows the lowest incidence of all disabilities, 261·8 per 1,000, accounted for by the absence of influenza, a very low respiratory diseases incidence and a low digestive diseases incidence. Andover and Halton in that order returned the lowest incidence of venereal diseases, while Henlow and Digby occupied first and second highest places respectively in this incidence. As might be expected, Uxbridge, a personnel depot, shows the lowest injury incidence at 36·7 per 1,000.

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43. Chart I, facing page 39, shows graphically the monthly case incidence (all diseases and injuries) per 1,000 of strength at home during 1931 and the two preceding periods. The higher case incidence in the winter months compared with the summer months is noticeable, and the lower incidences in December and August relative to the preceding and following months correspond with the periods and influence of Christmas and summer leave, respectively.

Notes on Diseases.

44. *Influenza.*—The incidence rose from 10·6 in 1930 to 48·2 per 1,000 in 1931, but was lower than the incidence of 57·4 per 1,000 for 1929. The number of sick daily was 22·6, compared with 6·1 in 1930, the increase in the average strength in 1931 being only 301 over 1930. The average duration per case in days was less at 7·3 days compared with 9 days in 1930.

45. *Infections of the upper air passages.*—The incidence of these diseases increased from 63·6 in 1930 to 75·9 per 1,000 in 1931, and the chief factor in this increase was the rate for pharyngitis and nasopharyngitis, which rose from 20·4 in 1930 to 43·5 per 1,000 in 1931. It is noteworthy that the incidence of tonsillitis fell from 40·2 in 1930 to 27·1 per 1,000 in 1931, a fall of 296 cases.

46. *Acute rheumatism.*—Of a total of 54 cases, 48 occurred at home, resulting in 1 death and 3 invalids, while 2 were remaining under treatment at the end of 1931. The 48 cases at home compare with 70 and 73 respectively in 1930 and 1929. Of these 48 cases, 20 occurred among aircraft apprentices at Halton, 1 at the electrical and wireless school at Cranwell, and 2 among apprentice clerks at Ruislip. Of the 23 cases among apprentices, 4 gave a previous history of rheumatism, 13 of upper air passage infections, and 3 a family history of rheumatism. One apprentice died, and 2 were invalided after 3 and 6 months' service. In addition to the 3 invalids recorded above, of 5 cases remaining under treatment at the end of 1930, 2 were invalided during 1931.

47. *Diseases of the heart.*—Forty-five cases of diseases of the heart were recorded, of which 30 were considered to be " disordered action," 6 were valvular diseases and 9 were diseases of the myo- and endocardium. The corresponding figures in 1930 were 36, 24, 6 and 6 respectively, and the incidence of diseases of the heart in 1931 was 1·9, compared with 1·6 per 1,000 in 1930.

48. *Tonsils.*—The number of cases of acute tonsillitis, 636, an incidence of 27·1 in 1931, has fallen compared with 932, and an incidence of 40·2 per 1,000 in 1930. The incidence of hypertrophy of the tonsils was more or less constant in 1931—an incidence of 10·0, compared with 1930 with an incidence of 9·2 per 1,000.

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49. *Otitis media.*—The incidence of acute cases remained practically the same in 1931 as in 1930, but that of chronic cases rose to 1·1 in 1931 from 0·5 per 1,000 in 1930 and compared with 0·7 per 1,000 in 1929.

50. *Venereal disease.*—The incidence of gonorrhoea and soft chancre has fallen from 10·7 and 0·5 in 1930 to 8·4 and 0·2 per 1,000 respectively in 1931, while the incidence of syphilis has shown a slight rise from 1·5 in 1930 to 1·8 per 1,000 in 1931.

51. *Diseases of the skin.*—There was an increase in the incidence of scabies in 1931 from 1930—74 cases from 66 or an increased incidence of 3·2 from 2·8 per 1,000. However, impetigo showed a fall of 34 cases, representing a fall of incidence to 7·3 in 1931 from 8·8 per 1,000 in 1930.

52. *Malaria.*—There were no cases of primary malaria at home. Compared with 58 recurrent cases and an incidence of 2·5 in 1930, there were 47 recurrent cases and an incidence of 2·0 per 1,000 in 1931. Any marked variation from year to year in the incidence of primary malaria abroad is followed by a corresponding variation in the incidence of recurrent cases at home. In 1930 and 1929, there were 265 and 410 cases respectively of primary malaria abroad.

53. *Injury.*—As noted in previous years, there is little variation from year to year in the incidence of injury, 73·0 in 1931, 71·9 in 1930, and 72·9 per 1,000 in 1929.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS. 1931.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	1,782	30·9	146·5	—	19·1	84·2	213·2	493·8	53·9	547·7
18 and 19 ..	3,386	40·2	95·7	4·1	12·1	45·8	173·4	371·2	64·7	435·9
20 and 21 ..	3,628	52·6	97·3	9·1	9·4	43·8	154·4	366·6	104·7	471·3
22 and 23 ..	2,440	51·6	87·7	18·0	11·1	38·9	127·4	334·8	91·4	426·2
24 and 25 ..	2,424	50·3	58·2	19·0	12·8	37·1	118·8	296·2	81·3	377·5
26 and 27 ..	1,864	52·0	60·1	17·2	12·9	38·1	102·5	282·7	82·1	364·8
28 and 29 ..	1,643	39·6	53·0	13·4	5·5	32·9	86·4	230·7	45·6	276·3
30 to 34 ..	2,278	42·6	43·0	11·4	9·2	35·1	97·9	239·2	40·0	279·2
35 to 39 ..	943	40·3	40·3	6·4	17·0	37·1	90·1	231·2	26·5	257·7
40 and over ..	567	42·3	40·6	3·5	17·6	40·6	116·4	261·0	30·0	291·0
Total, airmen ..	20,955	45·4	78·8	10·7	11·7	43·5	135·2	325·3	70·5	395·8
Officers and cadets ..	2,537	71·3	52·0	7·9	12·6	50·5	108·0	302·3	93·8	396·1
Total at home..	23,492	48·2	75·9	10·4	11·9	44·3	132·3	322·9	73·0	395·9

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TABLE XIV.—SICKNESS AT PRINCIPAL STATIONS AT HOME.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	483	37·3	64·2	4·1	8·3	49·7	93·2	256·8	60·0	316·8
Calshot.. ..	615	—	95·9	13·0	1·6	19·5	52·0	182·1	79·7	261·8
Cranwell ..	1,679	57·8	81·6	5·4	23·8	50·0	214·4	433·0	95·3	528·3
Digby	500	232·0	46·0	16·0	8·0	34·0	152·0	488·0	94·0	582·0
Felixstowe ..	500	14·0	90·0	10·0	14·0	30·0	150·0	308·0	84·0	392·0
Gosport ..	566	132·5	58·3	8·8	21·2	60·1	155·5	436·4	88·3	524·7
Grantham ..	518	32·8	32·8	5·8	—	42·5	104·2	218·1	56·0	274·1
Halton	3,450	11·0	105·8	4·3	13·6	78·0	157·4	370·1	42·9	413·0
Henlow.. ..	1,541	26·0	96·7	16·2	5·8	27·9	105·1	277·7	84·4	362·1
Manston ..	935	9·6	178·6	12·8	9·6	42·8	175·4	428·9	81·3	510·2
Uxbridge ..	1,852	50·2	85·3	5·4	7·6	43·7	201·4	393·6	36·7	430·3
All other stations*	10,853	57·3	55·2	13·2	12·2	36·8	104·6	279·2	81·7	360·9
Total 1931..	23,492	48·2	75·9	10·4	11·9	44·3	132·3	322·9	73·0	395·9
Total 1930..	*23,191*	*10·6*	*63·6*	*12·7*	*10·7*	*39·9*	*139·3*	*276·8*	*71·9*	*348·7*
Total 1929..	*22,685*	*57·4*	*82·6*	*11·0*	*14·4*	*40·6*	*130·8*	*336·8*	*72·9*	*409·7*

* Includes all Fleet Air Arm units at home.

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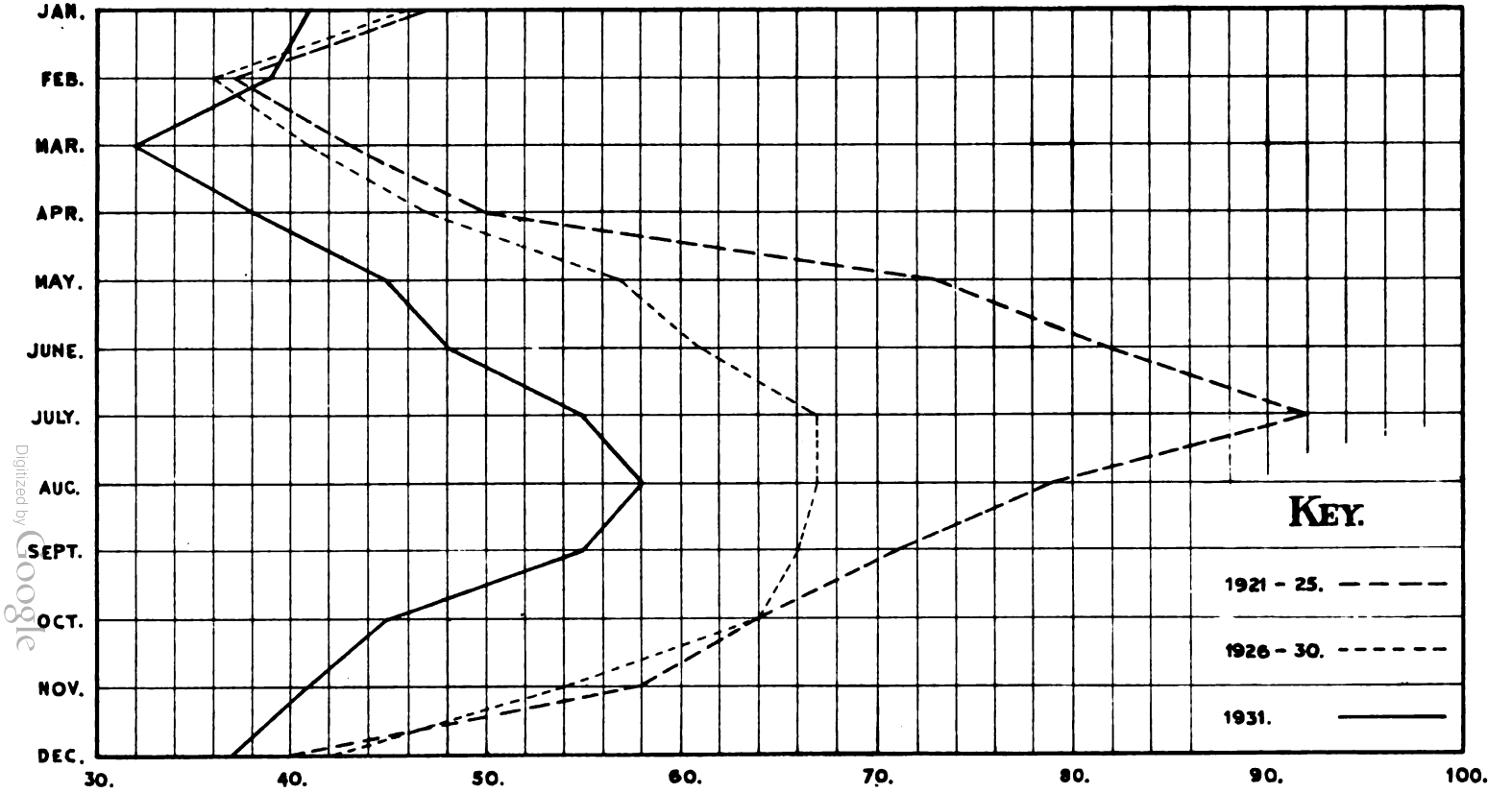
CHART 2. SICKNESS ABROAD, 1931.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1000 OF STRENGTH.



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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1931.

General.

54. The incidence of total sickness abroad, excluding the Fleet Air Arm, is analysed in table I, page viii, by geographical areas, and compares 1931 with the average incidences of the two preceding periods. Figures for the Far East stations are given as a footnote to this table. The average strength abroad, excluding the Fleet Air Arm, during 1931, was 8,552, and the total number of cases of sickness 8,056, representing an incidence of 941·8 per 1,000, compared with 920·8 in 1930, and average incidences of 1,149·2 and 1,678·8 per 1,000 in the two preceding periods. Excluding cases which were not admitted to hospital and sick quarters, the incidence was 526·6 per 1,000 of strength in 1931, compared with 562·4 in 1930, and averages of 655·2 and 732·7 per 1,000 in the two preceding periods.

55. Excluding cases not admitted to hospitals and sick quarters the number of sick daily fell to 23·0 per 1,000 in 1931 from 25·2 in 1930, and compares with averages of 30·7 and 37·0 for the two preceding periods. If cases of less than 48 hours' duration are included the constantly sick figure for 1931 was 24·9, compared with 26·6, and average incidences of 32·6 and 40·5 per 1,000 over the two preceding periods.

56. Excluding cases of less than 48 hours' duration, the average number of days' sickness per head was 8·4 days compared with 9·2 in 1930, while the average duration of these cases in days was 16 days compared with 16·3 days in 1930. Both of these figures compare favourably with the corresponding figures for former years.

57. The death incidence fell from 5·7 per 1,000 in 1930 to 4·4 in 1931, and compares with average incidences of 5·9 and 7·3 for the two preceding periods. The invaliding rate to the United Kingdom from abroad was practically the same at 12·7 compared with 12·8 in 1930 and 18·3 and 23·6 per 1,000 over the two preceding periods.

58. (i) Table XV, page 49, analyses by age groups of airmen, total airmen, officers and the total abroad certain diseases, which are shown by Table XII to have been the chief causes of medical non-effectiveness abroad during 1931. This table, with the exception of dysentery, malaria and sandfly fever, is comparable with table XIII for the force at home, and also serves as a means of analysing in detail the incidence of disease abroad in age groups given in table V. It will be noted that the strength of the age group 18 and 19 years being so very small, the incidences of this group have not been calculated.

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(ii) Upper air passage infections show the highest disability incidence at 81·8 per 1,000 compared with 76·7 and 78·1 in 1930 and 1929 respectively. The incidence of injuries is slightly lower at 76·5 compared with 82·3 and 86·6 per 1,000 in 1930 and 1929 respectively. Considering disease alone, upper air passage infections also show the highest incidence in each age group of airmen, and in the group of officers. There is a fall in the incidence of malaria compared with 1930 and 1929, 37·4 in 1931, 57·9 and 74·2 per 1,000 in 1930 and 1929 respectively. The incidence of sandfly fever remains fairly constant within small limits, 50·7 in 1931, 52·1 in 1930, and 49·6 per 1,000 in 1929.

59. Table XVI, page 50, analyses dysentery, malaria and sandfly fever at the principal stations abroad, showing also the percentage of all diseases attributable to each and their incidence collectively compared with all other diseases.

60. (i) Table XVII, page 51, continues the analysis of these diseases to show the actual number of cases by stations, and differentiates between cases of primary infection and recurrences of malaria and the various types of dysentery, while in Table XVIII, page 52, these numbers are shown monthly by geographical areas subdivided for malaria and dysentery into primary and total cases, and the incidences of the various types are compared with the corresponding averages of the two preceding periods. In 1931, these diseases accounted for 27·2 per cent. of all diseases at Hinaidi, 25·9 per cent. at Basrah and Shaibah and 14·9 per cent. at Karachi; in 1930 the corresponding figures were 23·9, 41·0 and 24·0 per cent. At Abu Sueir in 1931, the percentage of these diseases of the total was 12·4 compared with 20·8 in 1930. At Aden there is little variation in the figures, 13·3 per cent. in 1931 compared with 14·5 per cent. in 1930.

(ii) The decreased percentage at Abu Sueir was due to a fall in the incidence of malaria from 68·8 in 1930 to 16·7 per 1,000 in 1931, while at Karachi the incidence of both malaria and sandfly fever showed a fall from 36 cases of malaria in 1930 to 20 in 1931, and 28 cases of sandfly fever in 1930 to 15 in 1931, the relative average strengths being 736 in 1930 and 722 in 1931. The variation from year to year in the percentage figure at Basrah and Shaibah has to be considered in relation to the small average strength.

61. The incidence of dysentery, malaria and sandfly fever combined fell from 118·8 in 1930 to 96·7 per 1,000 in 1931, and was partly accounted for by a fall in the incidence of malaria in India from 140·5 in 1930 to 97·5 per 1,000 in 1931, and in Iraq from 55·7 in 1930 to 26·9 per 1,000 in 1931, and partly by a fall in sandfly fever incidence in India from 72·9 in 1930 to 44·8 per 1,000 in 1931. The incidence of sandfly fever in Iraq showed an increase from 86·7 in 1930 to 110·1 per 1,000 in 1931. In all geographical areas there was a fall in the incidence of primary

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malaria in 1931, compared with 1930, and there was a similar state as regards primary dysentery except for an increase shown in India.

62. As in previous years, the figures for 1931 show the bacillary type of dysentery to be much more frequent than the protozoal type in India and the Mediterranean Littoral, while in Iraq the position is reversed.

63. In India the malaria peak was reached in September in 1931, compared with August in 1930. The highest figures for sandfly fever occurred in July for all geographical areas, but in India during May the same number of cases was reported as in July.

64. Chart II, facing page 45, shows the monthly incidence of sickness abroad during 1931 compared with the two preceding periods. It will be noted that the highest incidence of sickness in all periods under review is reached in the summer months of July, August and September.

Notes on Diseases.

65. *Enteric group.*—Twenty-seven cases were reported during 1931 compared with 13 in 1930 and 47 in 1929. This number was largely contributed to by a mild epidemic of paratyphoid fever B which occurred at Aboukir, Egypt, the first case being notified on 14th May and the last on 5th June. In all, nine cases were reported, and all possible avenues of infection were investigated to determine the origin of the epidemic without success.

(i) *Typhoid fever.*—Six cases (2 in Iraq and 4 in India) were notified, compared with 2 in Iraq in 1930. The two cases in Iraq occurred in personnel engaged on armoured car duties, the conditions of which in Iraq approach to those of active service. The B. typhosus was isolated in all cases. Four of the cases recovered and were returned to duty, one was invalided to the United Kingdom and was fit for duty there before the end of the year, while one was remaining under treatment at the end of the year. Excluding convalescence, the average duration per case was 67·7 days.

(ii) *Paratyphoid A.*—No cases were reported during 1931 compared with one during 1930. However, two cases remaining from 1930, and then not definitely diagnosed, were notified as paratyphoid fever A during 1931. Both cases were stationed in India and recovered after an average of 29 days' treatment.

(iii) *Paratyphoid B.*—Fourteen cases were notified—3 in Iraq, 1 in India, 1 in Khartoum, and the 9 cases stated above at Aboukir, Egypt. Paratyphosus B was

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isolated in two cases while the remaining cases showed positive results to the agglutination test. All cases recovered and were returned to duty in their respective commands. The average duration per case, exclusive of periods of convalescence, was 45·1 days.

(iv) *Clinical enteric.*—Seven cases (3 in India, 2 in Egypt, and 2 in Iraq), were reported under this heading, i.e., clinically one of the enteric fevers but unconfirmed bacteriologically. The cases compare with six in India and one in Egypt during 1930. One case died after 16 days' illness, but the remainder recovered and returned to duty in their respective commands. Excluding convalescence, the average duration of the recovered cases was 36·1 days.

66. *Enteritis and gastro-enteritis.*—The incidence of those cases which were considered neither clinically nor pathologically to belong to the dysentery or enteric group fell to 27·7 (248 cases) per 1,000 from 36·6 (322 cases) in 1930 and 42·1 (357 cases) per 1,000 in 1929. There were no deaths nor invalids from this cause.

67. *Heat exhaustion, heatstroke and heat hyperpyrexia.*—Fifteen cases occurred abroad compared with 40 in 1930, 6 in 1929 and 27 in 1928, and resulted in 1 death, but there were no invalids. The reduction in the number of cases in 1931 compared with 1930 was chiefly due to the exceptionally cool summer of 1931 experienced in Iraq.

68. *Influenza.*—The incidence of this disease rose from 7·3 in 1930 to 21·9 per 1,000 in 1931 and compared with 7·8 in 1929 and 14·3 in 1928.

69. *Upper air passage infections.*—The incidence rose to 81·8 in 1931 from 76·7 for 1930 and 78·1 per 1,000 in 1929. There was one death resulting, but no invalids.

70. *Psychoneurosis.*—Thirty-four cases were reported in 1931, compared with 33 and 35 in 1930 and 1929 respectively. Of the 34 cases, 13 were invalided to the United Kingdom; 6 were finally invalided compared with 3 in 1930 and 5 in 1929.

71. *Otitis media.*—There were 46 acute cases, an incidence of 5·1, in 1931, compared with 27 and an incidence of 3·1 per 1,000 in 1930, while there were 9 chronic cases and an incidence of 1·0 in 1931 compared with 31 and an incidence of 3·5 per 1,000 in 1930. The same number—six—were invalided to the United Kingdom in 1931 as in 1930 on account of otitis media.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.										
		Dysentery.	Malaria.	Sandfly fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—												
18 and 19	67	*	*	*	*	*	*	*	*	*	*	*
20 and 21	1,039	10·6	21·2	63·5	98·2	31·8	16·4	33·7	227·1	502·4	75·1	577·5
22 and 23	2,312	8·7	29·8	61·4	75·7	28·1	12·5	35·0	195·9	447·2	75·7	522·9
24 and 25	1,760	10·2	50·0	60·8	79·5	27·8	13·1	36·9	195·5	473·8	93·2	567·0
26 and 27	735	5·4	55·8	49·0	91·2	34·0	15·0	35·4	198·6	484·4	81·6	566·0
28 and 29	572	5·2	43·7	33·2	87·4	31·5	22·7	38·5	159·1	421·3	68·2	489·5
30 to 34	942	8·5	40·3	37·2	84·9	27·6	13·8	37·2	201·7	451·2	46·7	497·9
35 to 39	410	9·8	17·1	51·2	95·1	19·5	31·7	41·5	180·5	446·3	56·1	502·4
40 and over	159	*	*	*	*	*	*	*	*	452·8	31·4	484·2
Total, airmen	7,996	8·5	36·9	53·9	82·9	28·5	15·8	36·6	197·1	460·2	73·9	534·1
Total, officers	960	9·4	41·7	24·0	72·9	3·1	10·4	51·0	196·9	409·4	97·9	507·3
Total, abroad 1931	8,956	8·6	37·4	50·7	81·8	25·8	15·2	38·2	197·1	454·8	76·5	531·3
Total, abroad 1930	*8,809*	*8·8*	*57·9*	*52·1*	*76·7*	*25·4*	*14·9*	*45·6*	*196·3*	*477·8*	*82·3*	*560·1*
Total, abroad 1929	*8,474*	*7·7*	*74·2*	*49·6*	*78·1*	*25·5*	*16·3*	*39·8*	*216·0*	*507·1*	*86·6*	*593·7*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD. 1931.

Command and station.	Average strength	Number of cases.						Percentage of total number of cases of disease at stations.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Dysentery, malaria and sandfly fever.	All other diseases.	All diseases.
Egypt.															
Aboukir ..	737	—	4	—	4	302	306	—	1·3	—	1·3	98·7	5·4	409·8	415·2
Abu Sueir ..	419	—	7	15	22	156	178	—	4·0	8·4	12·4	87·6	52·5	372·3	424·8
Cairo and Heliopolis	569	1	8	4	13	249	262	0·4	3·1	1·5	5·0	95·0	22·8	437·6	460·4
Aden.															
Aden and Khormaksar	413	4	18	—	22	143	165	2·4	10·9	—	13·3	86·7	53·3	346·2	399·5
Iraq.															
Hinaidi ..	1,486	6	13	175	194	518	712	0·8	1·8	24·6	27·2	72·8	130·5	348·6	479·1
Basrah and Shaibah	372	7	36	31	74	212	286	2·5	12·6	10·8	25·9	74·1	198·9	569·9	768·8
India.															
Karachi ..	722	6	20	15	41	234	275	2·2	7·3	5·4	14·9	85·1	56·8	324·1	380·9
Mediterranean.															
Calafrana ..	348	—	2	18	20	110	130	—	1·5	13·9	15·4	84·6	57·5	316·1	373·6

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TABLE XVII.—DYSENTERY, MALARIA AND SANDFLY FEVER AT STATIONS ABROAD, 1931.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Sandfly fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aboukir ..	737	—	—	—	—	—	—	—	—	3	4	—
Abu Sueir ..	419	—	—	—	—	—	—	—	—	7	7	15
Aden ..	413	—	—	4	4	—	—	4	4	16	18	—
Amman ..	231	—	—	3	3	1	1	4	4	1	2	31
Cairo and Heliopolis	569	—	—	1	1	—	—	1	1	8	8	4
Calafrana ..	348	—	—	—	—	—	—	—	—	—	2	18
Helouan ..	160	—	—	—	—	—	—	—	—	3	3	5
Ismailia ..	198	—	—	—	—	—	—	—	—	2	3	3
Khartoum ..	194	—	—	3	3	—	—	3	3	9	11	19
Ramleh ..	199	—	—	—	—	1	1	1	1	—	1	15
Various small stations and drafts *en route* ..	471	—	—	—	1	1	1	1	2	4	9	9
Total ..	3,939	—	—	11	12	3	3	14	15	53	68	119
India.												
Ambala ..	147	—	—	2	2	—	—	2	2	14	16	2
Karachi ..	722	—	—	3	4	1	2	4	6	7	20	15
Kohat ..	240	—	—	2	2	1	1	3	3	15	38	22
Lahore ..	150	—	—	3	3	—	—	3	3	11	17	9
Peshawar ..	158	—	—	3	3	—	—	3	3	—	4	33
Quetta ..	296	1	1	4	4	—	—	5	5	38	68	3
Risalpur ..	228	4	4	17	18	1	1	22	23	10	21	11
Various small stations ..	203	—	—	—	—	1	1	1	1	9	25	1
Total ..	2,144	5	5	34	36	4	5	43	46	104	209	96
Iraq.												
Basrah ..	200	1	1	—	—	3	3	4	4	25	31	21
Hinaidi ..	1,486	—	—	3	3	3	3	6	6	9	13	175
Mosul ..	219	—	—	2	2	1	1	3	3	6	8	27
Shaibah ..	172	—	—	—	—	3	3	3	3	4	5	10
Various small stations ..	39	—	—	—	—	—	—	—	—	—	—	—
Total ..	2,116	1	1	5	5	10	10	16	16	44	57	233
Fleet Air Arm abroad ..	404	—	—	—	—	—	—	—	—	—	—	6
Far East ..	353	—	—	—	—	—	—	—	—	1	1	—
TOTAL: All stations abroad	8,956	6	6	50	53	17	18	73	77	202	335	454

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TABLE XVIII.—DYSENTERY, MALARIA AND SANDFLY FEVER ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery.						Malaria.						Sandfly fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	—	1	2	2	—	—	2	4	3	7	—	1	1	—	—
February	—	—	2	2	—	—	2	2	2	7	3	3	1	—	—
March	1	1	1	1	1	1	4	6	3	6	—	1	—	1	1
April	—	—	5	6	1	1	—	2	5	13	2	3	2	6	5
May	3	3	5	5	1	1	1	2	3	16	2	4	7	23	23
June	—	—	—	—	2	2	3	3	6	18	6	7	17	11	21
July	1	1	2	3	—	—	1	1	4	17	5	5	30	23	83
August	4	4	3	3	3	3	3	4	12	23	3	3	24	17	43
September ..	1	1	1	2	3	3	9	11	34	49	8	10	25	10	36
October	2	2	16	16	1	1	12	14	13	24	8	13	6	3	20
November	1	1	6	6	4	4	3	3	14	22	1	1	5	2	1
December	1	1	—	—	—	—	13	16	5	7	6	6	1	—	—
1931 Total ..	14	15	43	46	16	16	53	68	104	209	44	57	119	96	233
Case incidence per 1,000 of strength															
1931	3·6	3·8	20·1	21·5	7·6	7·6	13·5	17·3	48·5	97·5	20·8	26·9	30·2	44·8	110·1
1926–30	*5·6*	*6·6*	*12·1*	*14·0*	*13·9*	*15·6*	*23·3*	*44·5*	*103·8*	*216·0*	*45·4*	*91·6*	*33·7*	*54·0*	*120·9*
1921–25	*9·6*	*12·0*	*11·4*	*19·6*	*34·0*	*41·4*	*10·0*	*25·2*	*103·8*	*240·0*	*53·7*	*116·2*	*61·8*	*68·6*	*258·3*

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CHAPTER IV.—MISCELLANEOUS.

The Central Medical Establishment.

72. During the year 575 candidates for commissions in the General Duties Branch were examined, of whom 329—57 per cent.—were finally accepted, compared with 63 per cent. in 1930. Two hundred and four were finally and 42 temporarily rejected. An analysis of these examinations is given in table XIX, page 61.

73. The causes of rejection at all examinations carried out at the Central Medical Establishment, which includes the candidates analysed in table XIX, are shown in table XXI, page 63. Defective vision continues to be the most frequent cause of final rejection—34 per cent., compared with 32 in 1930 and 31 per cent. in 1929.

74. In table XX, page 62, the average results of the physical efficiency tests and measurements of all candidates accepted at the Central Medical Establishment are shown for 1931, for 1930 and for the period 1925–1929.

75. Apart from the short courses of instruction in the routine procedure of medical examinations in the Royal Air Force given to newly-joined medical officers from the Medical Training Depot, a similar course of instruction for Colonial medical officers was instituted during the year. The courses are held bi-monthly, and up to the end of the year fourteen members of the Colonial medical services had attended.

76. Unfortunately, the experimental work in the low pressure chamber at the Royal Aircraft Establishment, Farnborough, was interrupted during the year, but this research is being continued in 1932, with special attention to the physiological effect of the standard service rates of oxygen supply at all service altitudes under varying conditions of energy output. This work will probably involve a large number of observations extending over a prolonged period.

Physical Efficiency of Serving Officers and Airmen Pilots of the Royal Air Force.

77. Three thousand six hundred and thirty-five officers and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches in 1931. Of 2,209 officers of the General Duties Branch liable for flying duty, 2,017 (91 per cent.) were found to be fit to act as pilots of aircraft, and the results of their responses to the standard physical efficiency tests are analysed in table XXIII, page 65, and table XXIV, page 66. Table XXII, page 64, compares the percentage of officers of the General Duties Branch liable to flying

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duties found fit for such duty for the years 1922 to 1931 inclusive. Three hundred and twenty-three out of 331 airmen pilots (98 per cent.) were fit for their full flying duties, and tables XXIII and XXIV also analyse the results of the physical efficiency tests of these pilots. Of 366 officers of the General Duties Branch who, for reasons of age, rank or duty were not liable to flying duty as pilots of aircraft, 224 (61 per cent.) were found to be fit, nevertheless, for such duty, 219 at home or abroad and 5 at home only; while of 729 officers of the ancillary services who require only to be fit to fly as passengers, 695 (95 per cent.) were proved fit for the full duties of their respective branches. Of the 34 officers of the ancillary branches not fit for the full duties of their respective branches, 29 were fit for these duties at home only.

78. Of the 2,209 officers referred to in the previous paragraph as liable to fly as pilots of aircraft, 1,387 were, in accordance with their terms of service, liable to flying duties without any restriction, and of these 1,320 (95 per cent.) were proved to be fit for such duty; of the remaining 822 who, although liable to flying duty, were for reasons of age only expected to reach a medical standard which may limit the duration and altitude of their flight, the extent of aerobatics which they may carry out and in certain instances the type of aircraft which they may pilot, 697 (85 per cent.) were considered to be fit for flying duties without any restriction, and 29 as up to their required standard. Of this latter group of 822 officers, 748 (91 per cent.) were fit for flying duties as pilots of aircraft. Of the 224 officers who were not liable for flying duties as pilots, 188 (84 per cent.) were considered fit, with no limitations nor retrictions, to pilot aircraft.

79. Table XXIII, page 65, analyses the physical efficiency tests which are able for practical purposes to be reduced to either positive or negative, and shows the numbers and percentage of the total considered fit in each test divided into officers and airman pilots. For each officer and airman pilot the results of the individual tests are correlated to arrive at the final assessment of fit or unfit. From the results of these tests will be noted the high standard of vision which is obtained in both officers and airman pilots. Also, considering the high percentage of officers and airman pilots assessed finally as fit, it will be realised that some of these tests do not play a very prominent part in arriving at the final assessment of a pilot's physical efficiency. Excluding vision, the chief factors determining the physical efficiency of a pilot are to be found in the tests analysed in table XXIV, page 66, and appertain to the cardio-vascular and respiratory systems.

80. Table XXIV, page 66, analyses the average results of the standard physical efficiency tests by age groups of officers and airman pilots found fit for flying duties as pilots of aircraft. From a scrutiny of this table the average physical efficiency of fit officers and airman pilots appears to be approximately equal.

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81. The causes of unfitness among the 192 officers of the General Duties Branch shown as unfit to fly as pilots in table XXII, page 64, are analysed in table XXV, page 68. The numbers shown as unfit include many officers who were only temporarily unfit at the date of examination, and many of these were fit for limited flying duties. The most frequent cause of unfitness was surgical causes, followed closely by medical causes, with defective vision occupying third place as in the last five years.

Medical Examination of Recruits.

82. The total number of candidates for enlistment as airmen examined during 1931 was 6,302, compared with 7,031 in 1930, and the number accepted as medically fit in 1931 was 2,415—38 per cent. compared with 2,793—40 per cent. in 1930. In addition, 787 aircraft apprentices were attested at Halton and 115 apprentice clerks at Ruislip, making with 1,819 attested airmen recruits out of the 2,415 found medically fit, a total intake of 2,721 for 1931, compared with 2,919 in 1930.

83. The medical examination of recruits is carried out at the London Recruiting Depot, either as direct applicants or referred by civilian medical practitioners in the provinces who have carried out a preliminary examination to eliminate unsuitable candidates and refer those considered to be fit or on the border-line for a final examination at the London Recruiting Depot. During the first five months of 1931, direct applicants were also examined at Royal Air Force stations by Royal Air Force medical officers and were accepted or rejected without reference to the London Recruiting Depot, but since the middle of May, 1931, the same system as regards examination of candidates for enlistment has been introduced for Royal Air Force stations and medical officers as in the case of civilian medical practitioners. During 1931, an average of 90 civilian medical practitioners have been employed monthly and recruits have been examined at 18 Royal Air Force stations. Candidates as aircraft apprentices and apprentice clerks are examined at Halton and Ruislip respectively under arrangements of the principal Medical Officers of the respective areas.

84. The total number of candidates examined at the London Recruiting Depot during 1931 was 3,601, of whom 2,039 were found fit and 1,412 were finally and 150 temporarily rejected. Sixty-five of the temporarily unfit candidates presented themselves for re-examination and with 16 exceptions were accepted. An improvement in the conduct of the medical examination by civilian medical practitioners, as compared with 1930, is evidenced by the fact that the incidence of rejections by them at the preliminary examinations was higher at 509 in 1931, compared with 474 per 1,000 in 1930, while that at the final examination was lower at 280 in 1931 compared with 327 per 1,000 in 1930. Colour

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vision test for all candidates examined at London Recruiting Depot was introduced on 1st May, 1931. Out of 1,336 examined from that date to the end of the year, 103 were found to have defective colour vision. Of the 2,039 recruits found fit at the London Recruiting Depot, 1,334 were protected against smallpox, and 106 had apparently perfect teeth.

85. Table XXVI, page 69, analyses the numbers finally rejected on medical grounds by cause and place of examination, and shows also the rate per 1,000 of each cause of rejection. Loss or decay of teeth was the chief cause of rejection followed by poor physique and deformities of the feet in that order. In 1930 also these causes were the chief reasons for rejection of recruits.

86. During 1931, 42 recruits, accepted with physique classified as " immature " were examined after three months' training and, with one exception, showed marked improvement in physique, evidenced by increased weight, which in some instances was marked. Nineteen airmen having less than six months' service were discharged during 1931 on account of disabilities which were considered to have been present before enlistment. The disabilities responsible for these discharges from the service were deformities of feet 8, defects of vision 7, psychoneurosis 2, disordered action of the heart 1, and dental caries 1.

Hygiene.

87. *Malaria.*—The incidence of malaria at Karachi and Kohat in 1931 shows a decrease when compared with that in 1930 and 1929. The beneficial results of mosquito-proofing at these stations is noticeable. In Basrah the incidence of primary malaria has been reduced. Breeding places have been treated with Paris green and the use of spray insecticide has been continued over a longer period than in former years.

88. *Dysentery.*—An outbreak of bacillary dysentery at Risalpur was traced to a carrier. Seventeen primary cases occurred compared with one in 1930.

89. *Cholera.*—An outbreak of cholera occurred at Basrah in July and spread among the marsh tribes in the Basrah, Amara and Muntafiq Liwas. Owing to the prompt and vigorous action of the Iraq Public Health Directorate, the epidemic did not reach Baghdad. Extensive prophylactic measures were undertaken by the Air Force authorities and inoculation of all personnel in the Basrah area was carried out. No case occurred amongst Air Force personnel. The country was declared cholera-free on 31st December, 1931.

90. *Enteric.*—A mild attack of enteric fever broke out at Aboukir in June. The source of infection appeared to be the native village of Aboukir in close proximity to the Air Force station. The precautions taken met with satisfactory results.

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91. *Venereal disease.*—The incidence of venereal diseases in Iraq was much lower in 1931 than in 1930, due partly to the treatment in each early treatment centre being carried out by a specially trained orderly as referred to in the report for 1930.

92. *Cerebro-spinal fever.*—In connection with the investigation into the outbreak of cerebro-spinal fever at the Royal Air Force Depot, Uxbridge, in the first quarter of the year, referred to in paragraph 14 (ii), the following conclusions were drawn :—

(i) The outbreak was confined to newly-joined recruits, aged between 18 and 23½ years, and it was not an isolated outbreak, but formed part of an epidemic spread widely over England.

(ii) The prevention of the disease is chiefly a matter of spacing out, so that special attention should be paid to the number of individuals gathered at one time in canteens, cafés, cinemas and closed conveyances. Barrack rooms at home should be centrally heated to ensure efficient warmth and ventilation and prevent local overcrowding around barrack room fires.

(iii) In the control of the disease nasopharyngeal disinfection by means of simple douching and gargling is efficient, and should be adopted as an additional precautionary measure, especially by those who come in contact with the sick, and by carriers. It should be persisted in for a fortnight after the last exposure to infection.

(iv) A general nasopharyngeal swabbing of the inmates of an infected barracks is an advisable measure, as it is a rapid method of detecting the more heavily infected and therefore dangerous carriers. Prompt action in this direction, together with adequate spacing out of personnel, should nip in the bud most epidemics of cerebro-spinal fever. Swabbing of the immediate contacts should suffice, if further cases arise.

(v) Detected carriers should be isolated to limit their radius of infectivity. They should practise nasopharyngeal disinfection by douching thrice daily for at least a fortnight before swabbings are examined for the meningococcus. No carrier should be liberated unless at least six swabbings, taken on alternate days, are negative to the meningococcus. Alternatively, all carriers might be liberated at the end of six weeks without the examination of nasopharyngeal swabbings, provided they had carried out the nasopharyngeal disinfection daily during that period.

93. *Water supplies.*—(i) The piped water supply to the Aden cantonment referred to in the reports for 1929 and 1930 has now been brought into operation and is proving very satisfactory.

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(ii) At Risalpur, during temporary contamination of the drinking water supply, the new type of water carts was brought into use and found to be effective.

(iii) During the year experiments were carried out on the Chloramine and Katadyn sterilisation of water with special reference to their use in the Royal Air Force water-cart. The conclusions arrived at were that chloramine is as efficient as bleaching powder for water sterilising purposes, when used in the correct dosage, as indicated by Horrock's test, and with previously clarified water. In addition, water treated with chloramine remains sterile longer than that treated with bleaching powder and is free from the taste of chlorine. Thus, chloramine can be recommended safely as a substitute for bleaching powder in the sterilisation of water under service conditions. It is purely a matter of convenience whether the chlorine will be carried in metal capsules, along with a somewhat cumbersome chloramine apparatus, or in the lighter and less stable form of bleaching powder. There are certain factors for and against each method of sterilisation. Bleaching powder is easily transported. The apparatus and technique required in its employment are simple, but it is liable to deteriorate. It also renders the water somewhat unpalatable. Chloramine is not so readily transported as the mixing chamber is relatively heavy. The apparatus is a little complicated and requires care for its use and conservancy, but the chlorine content is constant, and waters so treated are not affected as regards taste. Chloramine can be used with the service water-cart or the Royal Air Force water trailer in a manner similar to bleaching powder.

Katadyn in its present form is not suitable for sterilisation of water in the service water cart.

94. *Conservancy.*—The drainage of the aerodrome at Khormaksar is now completed and is entirely water-borne. The old cesspools have been filled in and this potential source of infection has been eliminated.

95. *Temperature of quarters.*—Experiments have been carried out at the General Hospital, Hinaidi, with a view to reducing the temperature of the wards and heat-stroke room. Whitening of all outside walls has had a beneficial effect in lowering the temperature of the main wards and a draught of cool air driven through a radiator, the head tank of which was filled with ice, appears to have reduced that of the heat-stroke room.

96. *Summer Training Camp.*—Ser Amadia, about 110 miles north of Mosul, was selected as the Summer Training Camp in Iraq for 1931. There is a good water supply and the personnel attending the camp appear to have benefited considerably from the change to cooler and more temperate climatic conditions.

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Hygiene Section, Royal Air Force Depot.

97. The work carried out by this section has been on the same lines as in previous years. Owing to the space available being limited, no new models were erected during 1931.

98. During 1931, 110 hospital and dental orderlies under training, i.e., recruits to the medical and dental branches, attended a preliminary course of instruction prior to proceeding to the medical training depot at Halton, and eight trained medical orderlies underwent a course for remustering to sanitary assistant. Eleven aircrafthands selected for sanitary duties in training camps were given courses of lectures and demonstrations on field and camp sanitation and hygiene, and 163 short service commissioned officers undergoing their preliminary training at the Depot received instruction in the simple methods of camp sanitation, general hygiene and the preservation of health in the tropics. The total number of Royal Air Force personnel who received instruction at the section during 1931 was: officers, 163; airmen, 374. In addition, officers about to sit for the promotion examination, and airmen prior to drafting overseas, attended in parties for lectures on, and demonstration of the models.

Princess Mary's Royal Air Force Nursing Service.

99. The average strength of the service was 102, and 23 members—21 at home and 2 abroad—were admitted to hospital, representing 1,130 days' sickness or an average of 11·1 days per head compared with 8·9 in 1930 and 7·8 days in 1929; the number of sick daily rose from 2·3 in 1930 to 3·1 in 1931. One death occurred in 1931 and one member was invalided from abroad to the United Kingdom.

Transfer of Casualties by Air.

100. In Iraq, 104 patients were evacuated over a total distance of 16,402 miles in 58 trips, and in Palestine 21 cases over 1,510 miles in 18 trips. Of the 76 trips carrying patients in these countries, 33 in Iraq and 16 in Palestine, were special trips at the request of the medical authorities, the remainder being routine communication flights.

101. During the last quarter of 1931 a method of readaptation of the Neil Robertson stretcher outfit was introduced in Iraq, whereby the patient is emplaned through the bomber's opening of the aeroplane and then secured within the fuselage. This method of use of the Neil Robertson stretcher gives a much greater peace of mind to the patient than the method by which the stretcher was strapped along the top of the fuselage. In the last quarter of 1931, four patients, two suffering from lobar pneumonia and two from bacillary dysentery, were evacuated to hospital by this method.

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Royal Air Force Reserve of Officers.

102. One hundred and three candidates for the Reserve of Officers were examined at the Central Medical Establishment during 1931, of whom 71 were accepted as medically fit—69 per cent. compared with 75 per cent. in 1930, and 68 per cent. in 1929. The causes of rejection of the unsuccessful candidates, both temporarily and finally, are shown in table XXI, page 63.

103. As many officers of the Reserve as possible were examined as to their physical fitness during the year on similar lines and in accordance with the same standards as obtain for regular officers. It was found possible, excluding 37 members of the University air squadrons, who were examined at Royal Air Force stations, to examine 428 officers compared with 196 in 1930. Of these officers, 43 per cent. were found to be above the average, 24 per cent. average, and 33 per cent. below the average in the 40 millimetre physical efficiency test, while in the tests for convergence and ocular muscle balance, 78 per cent. were shown as " very good," 13 per cent. " good," 7 per cent. " fair," and 2 per cent. as " poor ". The standard on which these markings were based was the efficiency index in use at the Central Medical Establishment.

104. Seven hundred and eight officers attended annual training during the year. Eight cases of sickness occurred, representing 126 days' sickness, or 0·2 day's sickness per head. The incidence of sickness per 1,000 of strength fell from 22·5 in 1930 to 11·3 in 1931. There were 11 flying accidents during training, six of which resulted in no injury to the occupants of the aircraft. Of the five casualties, two proved fatal.

Dental Treatment.

105. Compared with the previous year the total amount of treatment completed by officers of the dental branch during the year 1931 shows an increase of 1,982 fillings and a decrease of 2,245 extractions. Table XXVII, page 70, analyses the dental treatment given by geographical areas and total force.

106. The marked improvement in regard to oral hygiene noted in the previous year has been well maintained throughout the service.

107. The percentage of aircraft apprentices found free from dental caries on entry was 7·3 as compared with 6·5 for 1930 —whilst the percentages relating to recruits on entry are 3·5 and 5·9 respectively.

108. During the year improved accommodation has been provided for dental treatment at Uxbridge in the new sick quarters, where there are well-equipped surgeries, a dental radiological department and a mechanical laboratory.

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TABLE XIX.—RESULTS OF 676 EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 575 CANDIDATES FOR FLYING DUTIES. 1931.

Class of candidate.	Number accepted	Number rejected.		Total.	Percentage accepted.
		Finally	Temporarily.		
Cadets	103	55	6	164	*63*
Airman pilots	52	39	6	97	*54*
Short service commissions	134	107	28	269	*50*
Fleet Air Arm	26	3	1	30	*87*
Permanent commissions (University nominations)	14	–	1	15	*93*
Total	329	204	42	575	*57*

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TABLE XX.—CANDIDATES ACCEPTED FOR FLYING DUTIES.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Average results of tests.	Unit of measurement.	All classes of candidates (numbers accepted in each period are shown in brackets).		
		1925–29 (2,033)	1930 (406)	1931 (293)
Standing height ..	Cms.	175·3	175·5	176·1
Weight	Kgs.	64·4	65·4	66·7
Chest	Cms.	86·8	86·3	88·8
Vital capacity	Cc.	4,921	4,991	5,053
Breath-holding	Seconds.	78·8	82·2	84·9
Expiratory force ..	Mm. Hg.	139·5	134·1	144·3
Fatigue test	Seconds.	65·8	69·4	73·0
Systolic pressure ..	Mm. Hg.	129·9	131·1	131·2
Diastolic pressure ..	Mm. Hg.	79·0	78·1	80·1
Pulse rate :—				
Sitting	Per min.	72·1	71·9	70·4
Standing	Per min.	79·9	81·7	80·8
After exercise ..	Per min.	104·8	105·5	103·3
Time taken to return to normal.	Seconds.	29·9	32·7	32·1

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TABLE XXI.—CAUSES OF REJECTION BY THE CENTRAL MEDICAL ESTABLISHMENT. 1931.

Class of candidate.	(1) Vision.		(2) Ear, nose, throat and teeth.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1), (2), (3), with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	—	5	2	1	10	18	—	—	—	7	12	31
Short service commissions ..	2	41	1	3	19	32	5	17	3	18	30	111
Cadets	1	15	—	3	3	11	2	12	—	14	6	55
Reserves	1	15	—	—	5	5	—	4	—	2	6	26
Airman pilots ..	—	12	—	3	2	14	4	7	—	3	6	39
Auxiliary Air Force	—	—	—	—	—	—	—	1	—	1	—	2
Fleet Air Arm ..	—	1	1	1	—	1	—	—	—	—	1	3
Casuals	2	10	1	—	5	4	—	1	3	7	11	22
Total ..	6	99	5	11	44	85	11	42	6	52	72	289

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TABLE XXII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE TO FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1931	1,435	163	1,598	90
	1930	*1,457*	*137*	*1,594*	*91*
	1929	*1,424*	*201*	*1,625*	*88*
	1928	*1,330*	*205*	*1,535*	*87*
	1927	*1,308*	*188*	*1,496*	*87*
	1926	*1,375*	*191*	*1,566*	*88*
	1925	*1,401*	*154*	*1,555*	*90*
	1924	*1,384*	*168*	*1,552*	*89*
	1923	*1,330*	*196*	*1,526*	*87*
	1922	*1,181*	*173*	*1,354*	*87*
Abroad	1931	582	29	611	95
	1930	*561*	*25*	*586*	*96*
	1929	*586*	*39*	*625*	*94*
	1928	*517*	*48*	*565*	*92*
	1927	*519*	*56*	*575*	*90*
	1926	*593*	*57*	*650*	*91*
	1925	*665*	*52*	*717*	*93*
	1924	*672*	*60*	*732*	*92*
	1923	*616*	*85*	*701*	*88*
	1922	*638*	*104*	*742*	*86*
Total	1931	2,017	192	2,209	91
	1930	*2,018*	*162*	*2,180*	*93*
	1929	*2,010*	*240*	*2,250*	*89*
	1928	*1,847*	*253*	*2,100*	*88*
	1927	*1,827*	*244*	*2,071*	*88*
	1926	*1,968*	*248*	*2,216*	*89*
	1925	*2,066*	*206*	*2,272*	*91*
	1924	*2,056*	*228*	*2,284*	*90*
	1923	*1,946*	*281*	*2,227*	*87*
	1922	*1,819*	*277*	*2,096*	*87*

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TABLE XXIII.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH AND AIRMAN PILOTS, 1931.

Nature of test.	Officers.						Airman pilots, 331.		Total officers and airman pilots, 2,540.	
	Fit for flying duties, 2,017.		Unfit for flying duties, 192.		Total, 2,209.					
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	915	45	64	33	979	44	118	36	1,097	43
,, present	1,102	55	128	67	1,230	56	213	64	1,443	57
Self-balancing, steady	1,893	94	167	87	2,060	93	321	97	2,381	94
,, ,, unsteady	124	6	25	13	149	7	10	3	159	6
Knee jerks—normal	1,755	87	164	85	1,919	87	288	87	2,207	87
,, ,, abnormal	262	13	28	15	290	13	43	13	333	13
Vision, 6/6 both eyes	1,913	95	160	83	2,073	94	328	99	2,401	94
,, 6/6 and 6/9; 6/9 and 6/9	83	4	12	6	95	4	2	1	97	4
,, over 6/9 in either eye	21	1	20	11	41	2	1	(a)	42	2
Nasopharynx—normal	1,967	98	187	97	2,154	98	322	97	2,476	97
,, abnormal	50	2	5	3	55	2	9	3	64	3
Teeth—no treatment required	1,829	91	171	89	2,000	91	303	92	2,303	91
,, treatment required	188	9	21	11	209	9	28	8	237	9
Pyorrhœa—absent	2,008	(a)	190	99	2,198	(a)	329	99	2,527	99
,, present	9		2	1	11		2	1	13	1

(a) Present in less than 0·5% of numbers examined.

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TABLE XXIV.—AVERAGE RESULTS OF TESTS OF 2,017 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH AND 323 AIRMAN PILOTS FIT FOR FLYING DUTIES. 1931.

——	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.			Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing.	After-exercise.			
OFFICERS.	Years.		Yrs.	Kgs.	Secs.	Mm. Hg.	Secs.				Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	591	22·3	69·8	81·9	150·8	64·4	71·1	76·6	99·5	22·0	124·4	47·8
	25–30 ..	395	27·5	70·9	82·9	162·8	65·5	71·0	75·6	97·5	20·9	125·7	47·4
	31 and over	449	35·0	71·7	79·8	165·9	65·4	70·8	76·6	98·5	22·1	124·1	45·7
	All ages ..	1,435	27·7	70·7	81·5	158·8	65·0	71·0	76·3	98·6	21·7	124·7	47·1
Abroad	Under 25 ..	192	23·1	68·8	84·4	150·4	66·1	72·0	79·0	100·9	24·5	121·7	45·6
	25–30 ..	192	27·3	70·9	84·4	156·3	65·7	72·3	78·7	100·7	23·5	122·3	45·5
	31 and over	198	35·1	70·1	76·5	164·7	61·0	73·9	80·0	100·3	24·6	123·0	44·7
	All ages ..	582	28·6	69·9	81·8	157·2	64·2	72·7	79·2	100·6	24·2	122·3	45·2
Total force ..	Under 25 ..	783	22·5	69·5	82·5	150·7	64·8	71·3	77·2	99·9	22·6	123·8	47·3
	25–30 ..	587	27·4	70·9	83·4	160·7	65·6	71·4	76·6	98·5	21·8	124·6	46·8
	31 and over	647	35·0	71·2	78·8	165·6	64·1	71·7	77·7	99·0	22·9	123·8	45·4
	All ages ..	2,017	28·0	70·5	81·6	158·4	64·8	71·5	77·2	99·2	22·5	124·0	46·5

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AIRMAN PILOTS.													
At home	Under 25 ..	104	23·5	67·8	82·1	150·4	63·1	70·4	75·5	100·0	21·7	124·4	47·1
	25–30 ..	105	27·0	66·8	83·1	166·8	64·1	70·3	75·0	99·6	22·2	123·3	46·9
	31 and over	14	32·9	71·6	73·3	175·9	62·0	74·9	82·4	104·3	22·5	126·2	44·1
	All ages ..	223	25·8	67·6	82·0	159·7	63·5	70·6	75·7	100·1	22·0	124·0	46·9
Abroad	Under 25 ..	66	23·8	66·4	86·0	142·7	64·0	72·5	80·1	102·0	24·1	124·1	47·0
	25–30 ..	32	26·8	64·8	80·6	155·3	63·2	72·2	79·3	101·2	27·7	123·0	49·1
	31 and over	2	36·5	71·2	75·0	135·0	55·0	68·0	74·0	90·0	27·5	114·0	44·5
	All ages ..	100	25·0	66·0	84·0	146·6	63·6	72·3	79·7	101·5	25·3	123·5	47·5
Total force ..	Under 25 ..	170	23·6	67·3	83·6	147·4	63·5	71·2	77·3	100·8	22·6	124·3	47·1
	25–30 ..	137	27·0	66·3	82·6	164·1	63·9	70·7	76·0	100·0	23·5	123·2	47·4
	31 and over	16	33·3	71·6	73·5	170·8	61·1	74·0	81·4	102·5	23·1	124·7	44·2
	All ages ..	323	25·5	67·1	82·7	155·7	63·5	71·1	76·9	100·5	23·0	123·9	47·1

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TABLE XXV.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 192 OFFICERS OF THE GENERAL DUTIES BRANCH. 1931.

Defect.	At home.	Abroad.	Total.
Vision	35	5	40
Ears or teeth	8	2	10
Medical	42	8	50
Surgical	48	10	58
D.P.E.	14	3	17
D.P.E. and vision	3	—	3
D.P.E. and medical	10	1	11
D.P.E. and surgical	3	—	3
Total ..	163	29	192

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TABLE XXVI.—RECRUITS—CAUSES OF REJECTION. 1931.

Total examined, 6,302.	Numbers rejected.					
Cause of rejection.	By civilian medical practitioners.	At London Recruiting Depôt.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	739	189	15	943	150	294
Physique, poor	448	75	8	531	84	165
Feet, deformities of	308	168	10	486	77	151
Heart, diseases of, including D.A.H.	187	64	8	259	41	81
Ears, diseases of	52	61	1	114	18	36
Lungs, diseases of	15	52	1	68	11	21
Vision, defects of	182	95	4	281	45	88
Speech, defects of	18	4	0	22	3	7
Nervous system, diseases of	8	15	0	23	4	7
Cutaneous system, defects of ..	26	11	0	37	6	12
Albuminuria	11	4	2	17	3	5
Eyes and eyelids, diseases of ..	8	27	0	35	6	11
Hernia and bubonocele	15	11	2	28	4	9
Joints, diseases of	3	3	0	6	1	2
Veins, diseases of (varix)	44	36	1	81	13	25
Varicocele	46	6	0	52	8	16
Chest and spine, malformations of ..	10	2	0	12	2	4
Urinary organs, diseases of	16	5	1	22	3	7
Bed-wetting, history of	1	6	0	7	1	2
Ulcers, wounds, cicatrices	1	0	0	1	0	0
Other causes	127	49	7	183	29	57
Total	2,265	883	60	3,208	509	1,000

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TABLE XXVII.—DENTAL TREATMENT BY R.A.F. OFFICERS. 1931.

Treatment.	United Kingdom. (Average strength, 23,492.)	Mediterranean Littoral. (Average strength, 3,939.)	Iraq. (Average strength, 2,116.)	Total. (Average strength, 29,547.)
Fillings	32,606	2,539	1,609	36,754
Scalings	7,100	781	137	8,018
Extractions	10,897	878	757	12,532
Root fillings	182	4	32	218
Number of dentures supplied	476	48	48	572
Number of personnel supplied with dentures ..	315	39	37	391
Repairs to dentures ..	58	19	21	98
Remodels..	157	22	23	202

Note.—Dental treatment for R.A.F. personnel in India, Malta and Khartoum is carried out by the Army.

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AIR PUBLICATION 875 (1932)

AIR MINISTRY

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1932

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By Command of the Air Council,

C. L. Bullock

AIR MINISTRY

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force during 1932.

The health of all personnel both at home and abroad has maintained a high level during the year, the incidence of all cases of sickness showing a reduction of 48·8 per 1,000 of strength below that for 1931. For cases admitted to hospitals and sick quarters only, the incidence also shows a reduction from 433·2 in 1931 to 398·7 per 1,000 in 1932 and is the lowest incidence recorded since the institution of these reports in 1920.

The incidence of deaths was 3·6 per 1,000 of strength, which compares with 4·4 and 4·2 per 1,000 for the years 1931 and 1930 respectively.

The incidence of invalidings from the Service fell from 7·4 in 1931 to 6·8 per 1,000 in 1932, whereas the rate of invaliding to the United Kingdom from abroad was 13·5 compared with 13·4 and 13·7 per 1,000 in 1931 and 1930 respectively.

The "constantly sick" figure at 20·5 per 1,000 is also the lowest yet recorded.

It is extremely satisfactory to note that the incidence of venereal disease fell markedly from 14·7 in 1931 to 11·3 per 1,000 in 1932. This figure is the lowest rate yet recorded.

I have the honour to be, Sir,

Your obedient Servant,

J. McINTYRE,
Director of Medical Services,
Royal Air Force.

August, 1933.

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TABLE I.—SICKNESS AT HOME AND ABROAD—ANALYSED BY GEOGRAPHICAL AREAS.

Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.						
												Fresh cases of sickness.		Deaths.	Invalided out of service.	Invalided to United Kingdom.	No. of sick daily.	
		Less than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.				48-hour cases included.	48-hour cases excluded.
United Kingdom—																		
1932(a)	22,528	4,094	8,005	12,099	71	184	—	12·6	18·3	6·8	6·5	537·1	355·3	3·2	8·2	—	18·6	17·8
Average 1927–31 (a) ..	*22,257*	*4,301*	*8,380*	*12,681*	*81*	*179*	—	*13·4*	*19·4*	*7·6*	*7·3*	*569·8*	*376·5*	*3·6*	*8·0*	—	*20·8*	*20·0*
Average 1921–26	*22,267*	*9,504*	*8,329*	*17,833*	*72*	*270**	—	*9·2*	*18·1*	*7·4*	*6·8*	*800·9*	*374·1*	*3·2*	*12·1**	—	*20·3*	*18·6*
Fleet Air Arm: home and abroad—																		
1932..	897	233	333	566	10	3	9	11·6	18·7	7·3	6·9	631·0	371·2	11·1	3·3	24·2	19·9	18·9
Average 1927–31	*809*	*322*	*326*	*648*	*6*	*3*	*8*	*8·7*	*15·8*	*6·9*	*6·4*	*801·0*	*403·0*	*7·4*	*3·7*	*19·3*	*18·9*	*17·5*
Mediterranean Littoral—																		
1932(a)	3,895	1,363	1,787	3,150	15	14	43	9·9	16·3	8·0	7·5	808·7	458·8	3·9	3·6	11·0	21·9	20·5
Average 1927–31 (a) ..	*3,625*	*1,802*	*1,959*	*3,761*	*16*	*13*	*50*	*9·1*	*16·1*	*9·4*	*8·7*	*1037·6*	*540·4*	*4·4*	*3·6*	*13·8*	*25·8*	*23·8*
Average 1921–26	*3,640*	*2,291*	*2,036*	*4,327*	*20*	*20*	*59*	*9·7*	*18·9*	*11·5*	*10·6*	*1188·7*	*559·3*	*5·5*	*5·5*	*16·2*	*31·5*	*29·0*
Iraq—																		
1932..	2,089	837	1,257	2,094	9	11	48	12·0	19·1	12·0	11·5	1002·4	601·7	4·3	5·3	23·0	32·8	31·4
Average 1927–31	*2,339*	*931*	*1,613*	*2,544*	*13*	*9*	*65*	*12·7*	*19·1*	*13·8*	*13·2*	*1087·6*	*689·6*	*5·6*	*3·8*	*27·8*	*37·8*	*36·2*
Average 1921–26	*2,997*	*2,875*	*2,805*	*5,680*	*25*	*18*	*82*	*9·8*	*18·6*	*18·6*	*17·4*	*1895·2*	*936·9*	*8·3*	*6·0*	*27·4*	*51·0*	*47·7*
India—																		
1932..	2,062	839	1,121	1,960	7	3	17	8·6	14·0	8·2	7·6	950·5	543·6	3·4	1·5	8·2	22·4	20·8
Average 1927–31	*2,044*	*1,009*	*1,333*	*2,342*	*11*	*7*	*25*	*9·2*	*15·0*	*10·5*	*9·8*	*1145·8*	*652·2*	*5·4*	*3·4*	*12·2*	*28·8*	*26·8*
Average 1921–26	*1,872*	*2,279*	*1,380*	*3,659*	*17*	*12*	*49*	*7·1*	*16·3*	*13·8*	*12·0*	*1954·6*	*737·2*	*9·1*	*6·4*	*26·2*	*37·8*	*32·9*
Total, abroad—																		
1932† (a)	8,452	3,122	4,372	7,494	34	31	110	10·5	16·9	9·3	8·7	886·7	517·3	4·0	3·7	13·0	25·4	23·8
Average 1927–31ø (a) ..	*8,174*	*3,812*	*5,013*	*8,825*	*42*	*29*	*144*	*10·3*	*16·9*	*11·1*	*10·4*	*1079·6*	*613·3*	*5·1*	*3·5*	*17·6*	*30·4*	*28·5*
Average 1921–26	*8,508*	*7,445*	*6,222*	*13,667*	*62*	*50*	*189*	*9·0*	*18·2*	*14·5*	*13·3*	*1606·4*	*731·3*	*7·3*	*6·9*	*22·2*	*39·7*	*36·4*
Total force—																		
1932..	31,877	7,449	12,710	20,159	115	218	119	11·8	17·8	7·5	7·1	632·4	398·7	3·6	6·8	13·5	20·5	19·4
Average 1927–31	*31,240*	*8,435*	*13,720*	*22,155*	*129*	*212*	*151*	*12·0*	*18·4*	*8·5*	*8·1*	*709·2*	*439·2*	*4·1*	*6·8*	*17·6*	*23·3*	*22·2*
Average 1921–26	*30,776*	*16,950*	*14,550*	*31,500*	*135*	*320ø*	*190*	*9·1*	*18·1*	*9·3*	*8·6*	*1023·5*	*472·8*	*4·4*	*10·4**	*22·3*	*25·5*	*23·6*

* Excludes 711 invalids through Discharge Centre Medical Board during 1921. (a) Excludes Fleet Air Arm. ø Includes sickness at Far East stations.

† Includes sickness at Far East stations: 290 cases, 3 deaths, 3 finally invalided and 2 invalided to United Kingdom.

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1932

General

1. The total sickness in the force at home and abroad is analysed in table I, page viii, by geographical areas. There has been no change in the areas since last year's report, and the average personnel strengths of the localities included under the geographical area of Mediterranean Littoral were Malta 424, Egypt 2,066, Sudan 195, Transjordan and Palestine 585, Aden 430, and drafts *en route* to and from the United Kingdom 176. Table I compares the figures for 1932 with the corresponding average figures for the two periods—1927–31 and 1921–26. Throughout the report these two periods are referred to as the two preceding periods respectively. Separate figures are shown for the Fleet Air Arm, which varies throughout the year as to locality, and the details of sickness at stations in the Far East Command which includes Singapore and Kai Tak, China, are given in a footnote to this table.

2. The average strength of the total force during 1932 was 31,877 and the total number of cases of sickness, *i.e.*, inclusive of admissions to hospitals and sick quarters and cases of less than 48 hours duration was 20,159, giving a case incidence of 632·4 per 1,000 of strength compared with average incidences of 709·2 and 1,023·5 respectively for the two preceding periods. Compared with the corresponding figures for 1931, the incidence of sickness for all cases shows a reduction from 681·2 to 632·4 per 1,000 of strength.

3. In the total force the number of admissions to hospitals and sick quarters was 12,710, representing an incidence of 398·7 per 1,000 of strength compared with average incidences of 439·2 and 472·8 respectively for the two preceding periods. This incidence rate for 1932 shows a reduction of 34·5 per 1,000 of strength from the corresponding figure for 1931.

4. Comparing the force at home and abroad, the total sickness incidence at home has decreased from 582·6 in 1931 to 537·1 per 1,000 of strength in 1932, and compares with the average incidences of 569·8 and 800·9 per 1,000 for the two preceding periods. Abroad, a decrease of 55·1 per 1,000 in 1932 is shown in the total sickness incidence figure in relation to 1931, and the figure of 886·7 per 1,000 for 1932 compares very favourably with the corresponding average incidences of 1,079·6 and 1,606·4 for the two preceding periods. At home, the number of admissions to hospitals and sick quarters was 8,005, representing an incidence of 355·3 per 1,000 of strength compared with figures of 395·4 in 1931 and 376·5 and 374·1 per 1,000 for the two preceding periods. Abroad, the comparable figures

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are 4,372 admissions to hospitals and sick quarters, an incidence of 517·3 per 1,000 of strength, which compares with 526·6 per 1,000 in 1931 and 613·3 and 731·3 per 1,000 for the two preceding periods. It is worthy of note that in 1932 compared with 1931 all geographical areas show a decreased incidence of cases admitted to hospital and sick quarters, with the exception of Iraq which has an increased incidence at 601·7 in 1932 compared with 576·9 per 1,000 in 1931.

5. (i) In the whole force, including cases of less than 48 hours duration, the number of sick daily at 20·5 per 1,000 of strength is 0·9 per 1,000 lower than the corresponding figure for 1931 and compares with average incidences of 23·3 and 25·5 per 1,000 for the two preceding periods. The comparable figures for home and abroad are as follows :—At home, 18·6 per 1,000 of strength were constantly sick in 1932, compared with 20·0 in 1931, and 20·8 and 20·3 per 1,000 for the two preceding periods. Abroad, the figures were 25·4, 24·9, 30·4 and 39·7 per 1,000 for 1932, 1931, and the two preceding periods.

(ii) Excluding cases of less than 48 hours duration, in the total force, the number of sick daily was reduced from 20·3 per 1,000 of strength in 1931 to 19·4 in 1932, and shows a fairly marked reduction from the average incidences of 22·2 and 23·6 per 1,000 for the two preceding periods. At home, the number of sick daily in hospitals and sick quarters showed a reduction of 1·3 per 1,000 in 1932 compared with 1931, and the figure of 17·8 per 1,000 for 1932 compares favourably with the figures— 20·0 and 18·6 per 1,000 for the two preceding periods. Abroad, the constantly sick figure of this class in 1932 shows a slight increase over the figure for 1931, the incidence of 23·8 per 1,000 in 1932 compares with 23·0 in 1931 and average incidences of 28·5 and 36·4 per 1,000 for the two preceding periods.

6. In the total force, the average duration of each case in days was higher at 11·8 days compared with 11·4 days in 1931 : the averages for the two preceding periods were 12·0 and 9·1 days, while the average number of days' sickness per head shows a reduction of 0·3 in 1932 from 7·8 days in 1931, and compares with averages of 8·5 and 9·3 days for the two preceding periods.

7. (i) Causes of sickness, excluding cases of less than 48 hours duration, in the force as a whole, are analysed in table II, page 19, by certain diseases, groups of diseases and injuries to show the number of cases, deaths and invalids under each heading and to show further the percentage of each cause to the total, comparing 1932 with the two preceding periods.

(ii) In 1932, disease constituted 79·9 per cent. and injuries 20·1 per cent. of the total sickness compared with 82·9 and 17·1 per cent. in 1931 and average percentages of 82·9 and 17·1 per cent. and 85·4 and 14·6 per cent. respectively over the two preceding periods. It will thus be observed that disease and injury as causes of sickness have remained in fairly constant

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proportion. In the periods under review and in 1932, " other diseases due to infection " showed the highest percentage of total sickness. This fact was also noted in 1931. Excluding injuries, diseases of the digestive system was the second highest cause of sickness in 1932 as in 1931 and in the two preceding periods. It has to be noted that there was a decrease in the number of cases due to influenza from 1,328 in 1931 to 860 in 1932 and in diseases of the enteric group from 27 in 1931 to 9 in 1932. It has further to be noted that, as in 1931 compared with 1930, malaria continues to show a fall in the number of cases from 382 in 1931 to 297 in 1932. Another fairly marked fall in the percentage of disease due to venereal disease in 1932 compared with 1931 has to be noted, from 3·4 to 2·8, representing a fall of 116 cases and this percentage compares with average percentages 3·7 and 5·2 for the two preceding periods.

8. The figures shown in table II, page 19, regarding deaths and invalids are commented upon respectively under these headings in this chapter.

9. (i) Table III, page 20, analyses for 1932 and the two preceding periods the incidence of sickness and the average duration of each case in days by groups of diseases and injury groups and further divides these incidences as they occur in the total force and the force at home and abroad. There is no marked variation noted in the incidence of groups of disease except for diseases caused by infection which show a much lower incidence at 180·4 per 1,000 in 1932 compared with incidences of 219·3 and 255·9 per 1,000 for the two preceding periods. Compared with 1931, at home, the incidence of diseases caused by infection has fallen from 177·0 to 139·5 per 1,000. This fall is accounted for by the decreases in incidence of influenza from 48·2 in 1931 to 32·2 per 1,000 in 1932 and of upper air passage infections from 75·9 in 1931 to 60 7 in 1932. Abroad, the incidence of diseases caused by infection fell from 302·9 in 1931 to 287·3 per 1,000 in 1932 and compares with incidences of 355·0 and 467·6 per 1,000 for the two preceding periods. This fall is partly accounted for in the lowered incidence of 32·1 per 1,000 for malaria in 1932 compared with 37·4 in 1931. It has also to be noted that the incidence of diseases of the enteric group abroad fell from 3·0 in 1931 to 0·9 per 1,000 in 1932. Also, abroad the incidence of influenza fell from 21·9 in 1931 to 13·3 per 1,000 in 1932. It has to be noted that the incidence of disease for the whole force was 318·4 compared with 359·3 in 1931 and average incidences of 364·1 and 403·7 per 1,000 for the two preceding periods. On the other hand the incidence of injuries rose in 1932 to 80·3 compared with 73·9 per 1,000 for 1931 and average incidences of 75·1 and 69·2 per 1,000 for the two preceding periods.

(ii) During 1932 the average duration for cases of disease was 17·1 days compared with 16·4 in 1931 and 17·8 and 17·9 days for the two preceding periods. The injury group shows little

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variation worthy of note in the average duration of each case comparing 1932 and the two preceding periods, the average duration being 20·7; 21·6; and 19·6 days respectively.

Fleet Air Arm

10. Fluctuations in the incidence rates of sickness, deaths and invalidings of the Fleet Air Arm are to be expected as the total strength is so small—897. The incidence of all cases of sickness was 631·0 per 1,000 of strength compared with 733·8 for 1931 and 801·0 per 1,000 for the five-yearly period 1927–31. Excluding 48 hours cases, the sickness incidence fell markedly to 371·2 per 1,000 in 1932 from 520·0 in 1931 and compares with an average incidence of 403·0 per 1,000 for the period 1927–31. There was also a rise in the incidence of deaths from 8·3 per 1,000 in 1931 to 11·1 in 1932; the death rate for the period 1927–31 was 7·4 per 1,000. The final invaliding rate was 3·3 per 1,000 in 1932 as compared with 5·9 in 1931 and 3·7 per 1,000 for the period 1927–31. This incidence of 3·3 per 1,000 is comparable with the final invaliding rate for the total force of 6·8 per 1,000 for 1932 and the same incidence for the period 1927–31. The incidence of invalids from abroad was lower at 24·2 per 1,000 in 1932 compared with 27·2 for 1931, but higher than the average incidence of 19·3 per 1,000 for the period 1927–31; the invaliding rate from abroad for the total force was 13·5 in 1932 and 17·6 per 1,000 over the period 1927–31. There is very little variation in the constantly sick incidence, the average duration of each case in days and the average number of days' sickness per head, comparing 1932 with 1931 and the period 1927–31, except that cases admitted to hospital and sick quarters were sick for 5 days longer on an average in 1932 than in 1931.

Invalidings

11. *General.*—Table I, page viii, analyses the final invalidings and invalidings to the United Kingdom by geographical areas and total force, to show the numbers and incidences per 1,000 of strength for the year 1932, and average incidences for the periods 1927–31 and 1921–26. Table II, page 19, shows the final invalidings by disease and injury groups, stating the number of cases and the percentage of the total attributable to each group during 1932, and the average percentages for the two preceding periods. Table XII, page 30, analyses for 1932 only, the incidence of final invalids by disease and injury causes and further shows the incidence of invalidings to the United Kingdom from abroad. The invaliding incidences for the Fleet Air Arm are analysed in para. 10.

12. *Invalids from Commands abroad to United Kingdom.*—There was a slight increase in the invaliding rate from abroad—13·5 per 1,000 in 1932, compared with 13·4 in 1931, but this incidence compares favourably with the invaliding rates of 17·6

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and 22·3 per 1,000 for the two preceding periods. In comparison with 1931, during 1932 there was a decrease in the invaliding incidence from India of 3·5 per 1,000 of strength but increases were recorded in the Mediterranean Littoral of 1·1 and in Iraq of 4·6 per 1,000. The invaliding incidence of 23·0 per 1,000 compares with average incidences of 27·8 and 27·4 per 1,000 for the two preceding periods in Iraq. The groups of diseases responsible for the majority of invalidings to the United Kingdom during 1932 were :—Nervous system and brain, 18; injury, 17; digestive system (stomach and intestines), 14; tuberculosis, 8; diseases of eye, 8; diseases of urinary organs, 7; respiratory system (excluding pulmonary tuberculosis), 6; pneumonia, 5; diseases of joints, 5; diseases of ear and nose, 3; venereal disease, 3; circulatory system, 3; these diseases accounting for 97 invalidings out of a total of 119. The 119 invalids to the United Kingdom consisted of 23 officers and 96 airmen. Of the 23 officers, 17 were invalided on account of disease, including two as the result of old injury, and 6 on account of injury of which 3 were caused by flying accidents. Of the 96 airmen, 85 were invalided on account of disease, including 8 as the result of old injury, and the remaining 11 for injury cause. The 119 invalidings were from the following areas :—Iraq, 6 officers and 42 airmen; Egypt, 4 officers and 23 airmen; India, 6 officers and 11 airmen; Palestine and Transjordan, 3 officers and 7 airmen; Fleet Air Arm, 3 officers and 6 airmen; Aden, 1 officer and 3 airmen; Far East, 2 airmen; and Malta, 2 airmen. It is of interest to note that of the 23 officers invalided to the United Kingdom, 14 were returned to duty, one was finally invalided and 8 were remaining under treatment at the end of the year. The similar figures for the 96 airmen were 48 to duty, 20 final invalids and 28 remaining. Thus it will be observed that only 21—17·6 per cent. of those invalided to the United Kingdom became final invalids in 1932.

13. *Final Invalids.*—(i) Two hundred and eighteen cases—31 officers and 187 airmen were invalided out of the service in 1932, representing an incidence of 6·8 per 1,000, compared with 239, giving an incidence of 7·4 per 1,000, in 1931 and 212 and 320 and average incidences of 6·8 and 10·4 per 1,000 for the two preceding periods respectively. In 1932 disease as distinct from injury was responsible for 93·6 per cent. of final invalids. This figure compares with 91·6 in 1931, 90·9 in 1930, 94·1 in 1929 and average percentages of 91·1 and 95·0 over the two preceding periods. It will thus be noted that disease and injury as a cause of final invaliding bear a fairly constant proportion each year. In each period under review the greatest percentage of final invalidings was due to diseases of the nervous system and brain—25·2 per cent. in 1932, compared with average percentages of 27·2 and 24·6 in the two preceding periods, with tuberculosis occupying second place—16·5 per cent. in 1932 which compares with averages of 12·4 and 13·8 per cent. over the

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two preceding periods. Injuries were responsible for 6·4 per cent. of final invalidings in 1932 compared with percentages of 8·4 in 1931, 9·1 in 1930, 5·9 in 1929, 11·6 in 1928 and 10·7 in 1927 and average percentages of 8·9 and 5·0 over the two preceding periods.

(ii) The chief causes of final invalidings in 1932 were :—

Tuberculosis—		
Pulmonary	31	36
All other forms	5	
Psychoneurosis		21
Diseases of heart—		
Valvular	5	15
Disordered action	3	
Endocardial	5	
Myocardial	2	
Chronic suppurative otitis media		13
Diseases of eye		13
Diseases of digestive system		13
Mental diseases		12
Diseases of joints	6	11
Deformities of limbs	5	
Fractures		11

The same diseases—tuberculosis and psychoneurosis—have proved in 1932 as in former years the most frequent causes of invaliding from the service. Compared with 1931, there were increases in the numbers invalided for :—

Tuberculosis—		
Pulmonary	19 to 31	
Diseases of heart—		
Valvular	4 to 5	
Endocardial	1 to 5	
Myocardial	none to 2	
Chronic suppurative otitis media	8 to 13	
Diseases of eye	10 to 13	

and decreases in :—

Psychoneurosis	32 to 21	
Tuberculosis—		
Other than pulmonary	6 to 5	
Diseases of heart—		
Disordered action	8 to 3	
Diseases of joints	8 to 6	17 to 11
Deformities of limbs	9 to 5	
Fractures	17 to 11	
Mental diseases	15 to 12	
Epilepsy	13 to 8	
Diseases of respiratory system (excluding pneumonia and pulmonary tuberculosis)	16 to 8	

but no change in :—

Diseases of digestive system	13

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(iii) Of the 31 officers finally invalided, 30 were on account of disease, including 4 as the result of old injury, and 1 due to injuries received while travelling in a motor car. One hundred and seventy-four airmen were finally invalided on account of disease, including nine as the result of old injury, and 13 the result of injuries received—11 from accidents to motor cars or motor cycles, one on account of a flying accident off duty and 1 classified under "other causes" of injury. Of the 11 airmen injured as a result of motor vehicle accidents 9 were occupants of the vehicles and 2 non-occupants, *i.e.*, pedestrians.

Deaths

14. (i) Table I, page viii, analyses all deaths by numbers and by incidences per 1,000 of strength divided into geographical areas, the force abroad and the total force, for the year 1932 and the two preceding periods. Table II, page 19, analyses for the same year and the same periods all deaths by groups of disease and injury, showing for each group the percentage of the total deaths. Table XII, page 30, further analyses by numbers, for 1932 only, all deaths by disease and injury causes, showing those occurring in the force at home and abroad and those for the total force. The figures in respect of deaths in the Fleet Air Arm are commented upon in para. 10, chapter I.

(ii) There were 115 deaths in the total force during 1932, an incidence of 3·6 per 1,000 of strength, compared with 143 deaths and an incidence of 4·4 per 1,000 in 1931, and average incidences of 4·1 and 4·4 per 1,000 for the two preceding periods.

(iii) Of this total of 115 deaths, 80 occurred at home, representing a decreased incidence of 3·5 per 1,000 of strength compared with 4·4 in 1931 and 3·7 in 1930.

(iv) Abroad, the number of deaths was 35 which compares with 40 in 1931, and 50 in 1930 and incidences of 4·0, 4·5, and 5·7 per 1,000 of strength in 1932, 1931 and 1930 respectively. This low incidence of 4·0 per 1,000 which compares very favourably with the incidence of 3·5 at home is considered very satisfactory.

15. (i) Of the total of 115 deaths, 81 (70·4 per cent. of the total) occurred as the result of injury, compared with 94 (65·7 per cent. of the total) in 1931, and 34 (29·6 per cent. of the total) from disease, compared with 49 (34·3 per cent. of the total) in 1931. Thus the diminution in the percentage of deaths from injury noted in 1931 has not continued during 1932.

(ii) The causes of the 34 deaths from disease were as follows :—

Carcinoma	5
Pneumonia	4
Acute intestinal obstruction	2
Malaria M.T.	2
Pulmonary tuberculosis	2
Rheumatic endocarditis	2

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Septicaemia	2
Acute catarrhal jaundice	1
Acute poliomyelitis	1
Appendicular abscess	1
Encephalitis, acute	1
Enlarged Thymus	1
Empyema	1
Food poisoning (cause unknown)	1
Gastric ulcer (perforated)	1
Hodgkin's disease	1
Lymphadenoma	1
Liver abscess (amoebic)	1
Meningitis, acute	1
Pleurisy with effusion	1
Tetanus	1
Thrombosis of veins	1

The number of deaths from malignant tumours was much above the normal rate.

(iii) Of the 115 deaths, 49 occurred to officers, 5 to aircraft apprentices and 61 to other airmen. Twelve of the officer deaths were caused by disease and 37 by injury, *i.e.*, 76 per cent. of the total officer deaths. Of the 37 officer deaths due to injury, 32 were caused by flying accidents—3 not on duty ; 4 by motor vehicle accidents ; and one drowned in a submarine. It will be noted that the large majority of officer deaths due to injury resulted from flying accidents. Of the five deaths among aircraft apprentices, 4 occurred among apprentices on the strength of Cranwell—2 due to disease and 2 to injury, while the remaining death occurred at Halton due to disease. The 66 deaths occurring among other than commissioned personnel were due to disease in 22 cases and injury in 44 cases, *i.e.*, 67 per cent. of the total deaths in this class. This percentage of 67 due to injury among airmen compares with 76 per cent. of deaths due to injury among officers. Of the 44 deaths due to injury among airmen, 17 each were caused by flying accidents and motor vehicle accidents, two by drowning in a submarine accident, two others by drowning while bathing, 2 were suicidal, and 1 each was due to gun shot wounds while flying caused by hostile tribesmen, gun shot wounds by tribesmen on ground, a bomb accident and a railway truck accident.

Pulmonary Tuberculosis

16. (i) Table IV, page 21, analyses fresh cases of pulmonary tuberculosis occurring during 1932 by age and trade groups, by length of service and by type of unit. The incidences recorded in this table do not indicate liability to pulmonary tuberculosis in any age group, type of employment, length of service group or type of unit in which presonnel is serving. Thirty-nine fresh cases of pulmonary tuberculosis were recorded during 1932, compared with 23 in 1931, 25 in 1930 and 29 in 1929, and of this number two died, 31 were finally invalided, 5 were remaining

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under treatment at the end of the year and 1 had been returned to ground duty at home only, with restrictions as to mode of life and nature of duties to be performed. This latter case was first diagnosed during 1925, and was considered a case of definite arrest, but during 1932 the tubercle bacillus was found in the sputum on annual medical examination. Of the six cases remaining at the end of 1931 and which were referred to in the report of that year, five were invalided from the service during 1932 and one remained under treatment. The incidence in 1932 at 1·2 per 1,000 of strength is double that of 0·7 per 1,000 in 1931. Of the 39 cases, 30 occurred at home and nine abroad, giving a comparative incidence of 1·3 and 1·0 per 1,000 respectively. The two deaths occurred at home and of the 31 cases finally invalided, 27 were serving at home and four abroad at the onset of the disease. At home, 7 officers and 23 airmen comprised the 30 cases while all the 9 cases abroad were airmen.

(ii) In two of the cases there was a family history of pulmonary tuberculosis, and in 30 cases such a history was stated definitely not to exist, while in the remaining seven cases the history was doubtful. All the cases had histories of previous illnesses which might be regarded as possible precursors of pulmonary tuberculosis. Three patients gave a previous history of pleurisy with effusion, 19 of " chronic cough ", one of pleurisy and bronchitis, one of bronchitis in childhood, three of bronchitis, five of upper air passage infections, five of influenza, one of influenza and pleurisy and one of influenza and upper air passage infection. Ten cases suffered from haemoptysis, either before definite diagnosis or during the course of the illness. In four cases, the haemoptysis was described as slight. Blood-stained sputum was present. in eight cases, and muco-purulent sputum marked in five cases Twelve cases gave a history of loss of weight and eight had complained of " night sweats ". With three patients there was a history of loss of voice—one case fifteen months previous to the definite onset, and in all these cases the larynx was found to be involved. In one other patient the larynx was found to be involved at an early stage of the disease. There was no evidence of direct infection, except in two cases, one, the wife of the patient had died five years previously from pulmonary tuberculosis and one airman—a nursing orderly—who had nursed patients suffering from pulmonary tuberculosis and who had slept in the same barrack room near an airman subsequently diagnosed as suffering from this disease. The tubercle bacillus was found in the sputum of all patients, except four. Of these four cases, clinically, one was suffering from pleurisy with effusion, and a guinea-pig inoculated with the effusion from this patient was discovered at post-mortem to have extensive tuberculous lesions throughout its body and the other three cases showed definite clinical signs and symptoms of the disease and radiological examination was definitely diagnostic. The tubercle bacillus was also found in the faeces of three patients, but in all cases its presence there was due to swallowed sputum and not

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to a separate intestinal lesion. In two cases there was a history of previous tuberculous lesions other than respiratory—one, laryngeal and one, an adenitis. In 28 cases, the first radiological examination carried out was diagnostic of the disease; in three instances it was definitely not so, and in the remaining eight there was doubt as to the interpretation of the examination.

(iii) Of the 39 cases, only 18 had served in a tropical or sub-tropical climate—(Egypt 4, Iraq 3, India 3, Iraq and India 2, Iraq and Transjordan 1, Malta 1, British Somaliland, Egypt and India 1, British Somaliland, Egypt and Iraq 1, Aden and India 1, and Egypt and Aden 1). Of these 18 patients, only four had suffered from diseases peculiar to these climates (sandfly fever 2, and malaria B.T. 2). In three instances, conditions of service may have contributed to the onset of the disease—one, who suffered severe hardships as a prisoner of war; one, who was accommodated abroad for long periods under canvas in inclement weather; and one, who gave a history of extreme exposure to wet weather prior to the onset of the disability.

Venereal Disease

17. An analysis of the incidence of the various forms of venereal disease at home and abroad, and for the whole force during 1932 is given in table VI, page 23. This table also shows the incidences for total venereal disease for each year from 1921. Compared with 1931 the incidence of all venereal diseases in 1932 fell to 11·3 from 14·7 per 1,000 of strength. This figure is the lowest incidence of venereal disease yet recorded in the Royal Air Force, a fall of 3·4 per 1,000 or nearly 25 per cent. less than the previous lowest incidence, and is considered very satisfactory compared with 1931. There was no increase in the incidence of any fresh type of venereal disease in 1932, and there was a marked decrease in acute gonorrhaea from 10·0 in 1931 to 7·8 per 1,000 in 1932. As noted in 1931, the incidences in 1932 of all types of venereal disease occurring abroad were markedly higher than at home. In 1932, the average number of sick daily for all venereal disease was 28·7 at home and 31·2 abroad compared with 42·0 at home and 34·7 abroad for 1931 while the average duration of each case in days in the whole force in 1932 was 60·9 as compared with 58·8 in 1931. The average duration of each case has continued to increase slightly each year since 1927 when the figure was 50·1 days. The following figures show the number of days' sickness per head, caused by venereal disease at home and in the geographical areas abroad. The figures for 1931, 1930 and 1929 are given for comparison.

	Days' sickness per head.			
	1932.	1931.	1930.	1929.
Home	0·5	0·7	0·8	0·6
India	0·4	0·8	0·6	0·9
Mediterranean Littoral	1·2	1·3	0·8	0·9
Iraq	1·3	1·7	2·3	2·7

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Age Groups

18. Table V, page 22, gives an analysis of sickness incidence, subdivided into disease and injury, in the total force, in the force at home and abroad, by age groups in the case of airmen, and by officers and cadets. The youngest group—apprentices—serves at home only and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of the numbers if divided into age groups. There is no marked disparity in the incidence of disease comparing the officers and cadets group with the total airmen group. However, the injury incidence of the officers and cadets group is much higher than that of the total airmen group. As noted in the report for 1931, in 1932 disease incidence for airmen tends to become progressively lower as the airman gets older, both at home and abroad and for all units. Disease incidence is much higher in all groups abroad than at home. No definite conclusion can be drawn from the incidences of injury in airmen age groups comparing home and abroad, but as noted in the report for 1931, the injury incidence appears to rise until the age group 20 and 21 is reached and then falls progressively as the airman gets older. It is noted that the injury incidence of the officers and cadets group is higher than all of the airmen age groups. This fact may be partly explained by the larger proportion of officers and cadets employed in flying duties compared with airmen.

Types of Unit

19. Table VIII, page 26, analyses the incidence of sickness subdivided into disease and injury in the total force and in the force at home and abroad by different types of unit. As in 1931, it is noted that the total sickness incidence in flying units is lowest, the disease incidence being markedly so—262·1 compared with 405·0 and 331·7 per 1,000 for depôts and miscellaneous units respectively, while the injury incidence is highest in flying units, but there is not such a divergence in this incidence compared with depôts and miscellaneous units as would be expected. As noted in 1931, the incidence of disease in flying units abroad is more than double the incidence at home. In depôts and miscellaneous units the disease incidence, although lower at home than abroad, is not markedly lower. This year the lower injury incidence of 56·9 per 1,000 in miscellaneous units abroad has to be noted. This incidence compares with 79·2 per 1,000 for all units abroad. The incidence of deaths, as is to be expected, is highest in flying units, and is due mainly to injury causes with an incidence of 3·9 per 1,000 for injury and 0·8 for disease. This sequence is noted for flying units both at home and abroad. For all units the incidence of deaths due to injury is more than double that of disease. The incidence of final invalids at home is highest in miscellaneous units, which include personnel depôts, at 11·3 compared with 8·9 for depôts and 6·0 per 1,000 for flying units. This is what might be expected

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and also bears out the experience in 1931. The constantly sick incidence at home is lowest in flying units with 14·6 compared with 19·2 for miscellaneous units and 22·1 per 1,000 for depôts. However, abroad, the number of sick daily per 1,000 of strength shows miscellaneous units as lowest at 21·3, followed by depôts with 23·9 and flying units with the highest incidence at 25·5. The average duration of each case in days is practically the same for the different types both at home and abroad, and approximates to the figure of 17·8 days for the total—all units.

Trade Groups

20. Table IX, page 27, analyses by trade groups the incidence of sickness, divided into injury and disease, and the latter further sub-divided into the five groups of diseases which invariably are responsible for the bulk of medical non-effectiveness. This year there have been a few changes in the trades forming the various trade groups and also in some instances in the nomenclature of the groups, in order to conform better to the underlying principle of including, in the same group, all occupations exposed to more or less similar conditions of employment, and at the same time, as far as possible, to avoid marked divergences in the strengths of the different groups which would lessen the value of the comparisons made. On account of this change, the incidences in this table are not strictly comparable with previous years, with the exception of the groups of apprentices, aircrafthands and officers, cadets and airman pilots which show no alteration in their composition. Apprentices show the highest all-disabilities incidence with 486·9 per 1,000, followed by metal workers and aircrafthands with 426·2 and 409·9 per 1,000 respectively. This high incidence among apprentices is accounted for by the high incidences of influenza (33·9 per 1,000), of upper air passage infections (93·6 per 1,000), and of digestive diseases (79·4 per 1,000). It is more marked when the very low venereal disease incidence (0·4 per 1,000), and the fairly low injury incidence (67·4 per 1,000) are considered. In 1928, 1929 and 1930 apprentices also occupied the highest place in the all-disabilities incidence, but were third in 1931. Clerks and office workers show the lowest all-disabilities incidence at 342·9 per 1,000 followed closely by the wireless operators—armourers group—with 348·8 per 1,000. Other skilled trades show the lowest injury incidence at 58·8 per 1,000 and fitters the highest with 100·2 per 1,000. Clerks and office workers as would be expected stand low with an injury incidence of 59·3 and officers, cadets and airman pilots high showing an incidence of 99·7 per 1,000. Clerks and office workers show the highest incidence in respiratory diseases group with 16·3 per 1,000. The low venereal disease rates of apprentices and of the officers, cadets and airman pilots group have again to be noted. The latter group shows a high influenza incidence. Otherwise than noted above, there is little variation in the incidences of the various disease and injury groups in the different trade groups.

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Injuries

21. Table X, page 28, analyses injuries by cause, nature of injury, deaths from injury and whether occurring on or off duty. Cases of sickness due to heat exhaustion (5 cases), heat hyperpyrexia (1 case), sunstroke (2 cases), and effects of heat, for example, sunburn (9 cases), and cases due to the wearing of ill-fitting boots (7 cases) are not included as these types of cases do not come under the heading of injury for the purpose of this analysis.

22. The number of cases of injury of all types during 1932 was 2,536, an incidence of 80 per 1,000 of strength, compared with incidences of 73 in both 1931 and 1930, 76 in 1929 and 78 per 1,000 in 1928. Fifty-six per cent. of all accidents occurred on duty, compared with 60 per cent. in 1931, 56 per cent. in 1930 and 57 per cent. in both 1929 and 1928. It is observed that there is little variation in the incidence of all injuries and in the percentage of accidents occurring on duty over the five years reviewed. Eighty-one deaths were the result of injury, and of these 64 per cent. occurred on duty in 1932, compared with 75, 72, 60 and 76 per cent. respectively during the years 1931, 1930, 1929 and 1928. Fourteen invalidings were the result of injury, twelve off duty and 2 on duty, compared with 20 in 1931. Fifty-three per cent. of all injuries were sited in the lower extremity. This percentage shows that the lower extremity suffers much more often than any other part of the body. This has been the experience in the five years reviewed, the respective percentages being 54, 53, 52 and 50 in the years 1931, 1930, 1929 and 1928.

23. *Injuries sustained in flying accidents.*—Flying accidents were responsible for 4·9 per cent. of all injuries compared with 6·2, 6·3, 6·0 and 6·6 per cent. during the years 1931, 1930, 1929 and 1928 respectively. During 1932, more hours were flown per accident resulting in injury or death than in any previous year. 60 per cent. of the total deaths as a result of injury were due to flying accidents, compared with 73, 66, 56 and 68 per cent. in 1931, 1930, 1929 and 1928 respectively. Table XI, page 29, further analyses flying casualties occurring on duty for the years 1929 to 1932 inclusive. During 1932, 39 per cent. of flying casualties on duty resulted in death compared with percentages of 46, 47, 28 and 41 for the years 1931, 1930, 1929 and 1928 respectively. During 1932, three officers were killed and one injured while flying off duty, and 29 officers were killed or died as a result of flying accidents out of a total of 66 officer casualties on duty. All the casualties were officers of the general duties branch. One cadet was injured flying on duty in 1932, but there were no deaths. There were 51 flying casualties on duty among airmen, resulting in 17 deaths compared with 25 deaths as a result of 63 flying casualties on duty in 1931. Of the 17 deaths in 1932, 7 occurred among fully qualified airmen pilots or airmen pilots under training, and the remaining 10

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deaths were distributed over the other trade groups as follows :— Fitter group 7 ; W/T operator group 2 ; and aircrafthand, 1. Eight airmen pilots or airmen pilots under training were injured as a result of flying on duty and one of these airmen was invalided on account of the injuries received. One airmen pilot was injured while flying off duty. The remaining 26 cases of injury occurred as follows :—Fitters, 13 ; W/T operator group, 6 ; driver group, 4 ; workshop workers, 2 ; aircrafthands, 1.

24. *Injuries caused by airscrews.*—During 1932, 15 cases of injury due to this cause were reported, compared with 24 in 1931, 26 in 1930 and 27 in 1929. All the cases were on duty at the time of the accidents. Twelve of the cases received injuries whilst handling the airscrew, one while using the " bag and rope " method, one failed to stand clear when the " all clear " was given and one was struck by the airscrew when closing the door of the aircraft near the engine. The casualties occurred over the following trade groups :—Fitters, 12 ; apprentices, 1 ; W/T operators group, 1 ; and driver group, 1. The improvement in the lowered number of accidents due to this cause is satisfactory. The fact that the injuries did not result in any deaths or invalidings is specially gratifying.

25. *Injuries sustained while starting motor engines.*—During 1932, 27 cases of injury occurred from this cause, compared with 24, 25 and 26 in 1931, 1930 and 1929 respectively. Neither death nor invaliding resulted from any of these cases of injury. Twenty-two of the cases occurred on duty and 5 off duty. These cases exclude those referred to in the previous paragraph.

26. *Injuries the result of motor accidents.*—During 1932, 468 cases were notified due to this cause, compared with 410, 461 and 431 cases during the years 1931, 1930 and 1929 respectively. Of the 468 cases, only 25 occurred on duty ; 21—all of which occurred off duty—proved fatal, and 12 were invalided from the service. All the invalids received the injuries off duty. The death and the invaliding figures resulting from injury due to motor accidents for the years 1929 to 1932 inclusive are shown below for comparison.

	1932.	1931.	1930.	1929.
Deaths	21	20	20	19
Invalids ..	12	12	10	7

These figures indicate the heavy cost each year in personnel from this cause. Injuries from this cause are analysed by four groups as follows :—

(i) *Motor cycles—occupants.*— Three hundred and fifty-four cases, or approximately 75 per cent. of all motor accidents resulting in injury and 14 per cent. of all injuries, occurred to occupants of motor cycles during 1932. Only nine of these cases occurred on duty. Thirteen deaths resulted and nine were invalided as a result

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of the injuries received. Compared with the above figures, 73 per cent. of all motor accidents and 12 per cent. of all injuries occurred to the occupants of motor cycles in 1931.

(ii) *Lorries or tenders—occupants.*—Out of a total of 10 cases of injury due to this cause 8 occurred on duty, one off duty and in one case it was not stated whether personnel was on or off duty. Eleven cases occurred in 1931. During 1932 neither death nor invalid resulted from this type of accident.

(iii) *Motor cars—occupants.*—Eighty-one cases (77 off duty and 4 on duty) were notified during 1932, on account of this cause, compared with 74 (one on duty) in 1931. Seven deaths, all off duty, resulted, and there was one invalid, also off duty.

(iv) *Motor vehicles, all types—non-occupants.*—During 1932, there were 23 cases of injury (19 off duty and 4 on duty) to personnel who were not occupants of motor vehicles and this figure compares with 25 cases in 1931. As a result there was one death and two invalids, all off duty. The types of vehicles involved in the accidents were :—Civilian 15 (with the 1 death and 2 invalids), R.A.F. 3 and unknown 5.

27. *Injuries sustained in athletics, games and physical recreation.*—During 1932, 1,189 cases of injuries were sustained in athletics, games and physical recreation, an incidence of 37 per 1,000 of strength compared with 1,089 and 983 cases and incidences of 33·6 and 30·7 per 1,000 of strength in 1931 and 1930 respectively. During 1932, injuries due to this cause were responsible for 46·9 per cent. of all injuries on or off duty, compared with 45·8 and 42·1 per cent. in 1931 and 1930 respectively. There were no deaths or invalids in 1932, compared with 1 death and 1 invalid in 1931. As in previous years, football accounted for the majority of the cases in this group—855, or 72 per cent., compared with 72 and 70 per cent. in 1931 and 1930 respectively. Among the injuries received playing football, the commonest were synovitis of knee (180 cases) and sprained ankle (144 cases). This bears out the experience of previous years. Of the 1,189 cases, 944 or 79 per cent. occurred on duty, *i.e.*, in athletics, games or exercises organised by the service ; 211 off duty, and in 34 cases it was not stated whether the injury was sustained on or off duty. These figures compare with 895 or 82 per cent., 155, and 39 cases respectively in 1931.

28. *Wounds in action.*—There were 4 cases of injuries on account of wounds in action, and 1 proved fatal.

29. *Accidental gunshot wounds.*—During 1932, 10 cases, compared with 8 in 1931, were recorded due to this cause of which 9 occurred on duty and 1 off duty. Two of the 9 cases occurring on duty proved fatal. There were no invalidings.

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30. *Injuries the result of voluntary parachute descents.*—There were 7 cases of injury due to this cause compared with 2 cases in 1931. No deaths or invalidings occurred as a result of the injuries received. Injuries received as a result of emergency parachute descents have been included under flying accidents, para. 23.

31. *Injuries caused by animals.*—During 1932, 6 cases of injuries due to dog bites occurred, compared with 2 in 1931, and 2 cases of injury caused by other animals were reported, compared with 5 cases in 1931.

32. *Injuries sustained in workshops.*—Thirty-five cases of injury on account of this cause, were reported in 1932, compared with 30 and 45 in 1931 and 1930 respectively. There were no deaths or invalidings.

33. *Other causes of injury.*—Six hundred and fifty cases of injury which it was not possible to classify under any of the preceding paragraphs occurred during 1932, compared with 635 and 623 in 1931 and 1930 respectively. Of the 650 cases, 240 occurred on duty, 382 off duty and in 28 cases this information was incomplete in detail. Of the cases on duty, 3 resulted in death and 1 was invalided, while 5 deaths occurred off duty. There were four cases of suicide or attempted suicide, 2 deaths resulting, and also 1 case of a self-inflicted wound.

Nosological Tables

34. Table XII, page 30, is the chief nosological table of the report and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad and as a whole. Certain diseases and injuries marked with an asterisk in table XII and which are responsible for the majority of the total sickness are analysed in greater detail in table VII, page 24, by geographical areas and by total force. The main object of table VII is to indicate the relative incidence of tropical diseases in areas abroad. The figures for the Fleet Air Arm, which were shown as a separate entity in table I, page viii, are included in the home and abroad figures as appropriate in tables VII and XII. The heading " no appreciable disease " includes all cases, except mental and epileptic, which were admitted to hospital or sick quarters for observation, and in which no confirmation of disease or injury was made.

35. (i) The principal causes of medical non-effectiveness with the average number of sick daily due to each cause are shown below, and the figures for 1931, 1930 and 1929 are inserted for comparison :—

	Average number sick daily.			
	1932.	1931.	1930.	1929.
Injuries	144·6	135·3	140·8	140·5
Gonorrhoea	51·3	62·2	64·7	56·2

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	Average number sick daily.			
	1932.	1931.	1930.	1929.
Tonsillitis	22·2	22·4	30·1	34·0
Appendicitis	21·1	23·3	21·0	19·3
Upper air passage infections (excluding tonsillitis) ..	21·0	28·9	17·5	24·2
Influenza	19·8	26·0	7·4	31·7
Cellulitis	11·7	12·3	15·5	14·4
Diseases of joints ..	11·3	10·8	11·6	15·3
Malaria	10·5	13·5	18·1	20·3
Urethritis (non-venereal)	9·1	10·3	10·4	8·2
Sandfly Fever	9·0	9·2	8·6	8·0
Bronchitis	8·7	9·6	7·3	7·9
Venereal disease (excluding gonorrhoea)	8·6	14·5	16·0	14·5
Impetigo contagiosa ..	8·2	10·1	11·0	10·4

(ii) During 1932, injuries and gonorrhoea were the chief causes of sickness, although the number constantly sick on account of gonorrhoea has fallen compared with the three previous years. Similarly, more than a slight fall has to be noted in the constantly sick figure for upper air passage infections (excluding tonsillitis), for influenza, for venereal disease (excluding gonorrhoea) and for malaria, comparing 1932 with the year 1931. No marked increase in the constantly sick rate has to be noted for any disease.

36. Compared by geographical areas, the order of medical effectiveness, reflected in the number of days' sickness per head, during 1932 was :—

The force at home, 6·8 days ; the Fleet Air Arm, 7·3 days ; the Mediterranean Littoral (Egypt, Sudan, Palestine, Transjordan and Aden), 8·0 days ; India, 8·2 days ; and Iraq, 12·0 days. In 1931 the order was the same as in 1932, and this order varies very little comparing previous years.

37. Para. 17, page 10, comments upon the part played by venereal disease as a cause of non-effectiveness in the various geographical areas and compares 1932 with the years 1929 to 1931 inclusive.

38. Abroad, dysentery, enteric group, malaria and sandfly fever caused a marked amount of non-effectiveness. The table below compares the average number of sick daily for each of these diseases comparing the geographical areas abroad and the year 1932 with the years 1931 to 1929 inclusive.

In India, 146 cases of malaria occurred in 1932 compared with 209 in 1931 and accounts chiefly for the fall in the incidence of malaria for the total force from 11·8 to 9·3 per 1,000 of strength in 1932. However, at the principal stations in Egypt (table XVI), there was an increase in the number of cases of

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malaria from 19 in 1931 to 45 in 1932 with an actual decrease in strength of approximately 40. It has also to be noted in table XVII that Khartoum shows a heavy incidence of malaria (19 cases) and sandfly fever (11 cases). This fact was also noted in 1931 with 11 cases of malaria and 19 cases of sandfly fever.

	Average number of sick daily.											
	Mediterranean Littoral.				Iraq.				India.			
	1932	1931	1930	1929	1932	1931	1930	1929	1932	1931	1930	1929
Dysentery ..	0·6	1·0	1·4	1·3	1·8	1·4	2·1	3·7	2·5	3·1	2·4	1·1
Enteric group ..	0·4	1·6	0·9	1·2	0·6	1·4	1·5	8·0	1·0	2·1	2·4	6·1
Malaria, primary	1·9	1·6	2·0	1·9	1·4	1·7	2·9	3·0	3·5	2·9	2·9	5·6
Malaria, other (including all clinical).	0·6	0·8	1·0	1·1	0·5	0·7	1·8	2·0	1·4	3·1	4·2	5·1
Sandfly fever ..	1·3	2·1	1·8	1·7	5·7	5·0	3·7	3·9	2·0	2·1	2·9	2·4

Of the principal stations abroad shown in table XVI, Aden appears the most healthy with the lowest all-disabilities incidence, excluding injury, of 320·9 per 1,000. In the corresponding table for 1931, Aden showed the third lowest figures for all-disabilities, excluding injury.

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1932.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1932.	1927-31.	1921-26.	1932.	1927-31.	1921-26.	1932.	1927-31.	1921-26.
Dysentery	76	—	—	0·6	*0·6*	*1·4*	—	*0·2*	*0·4*	—	—	*0·2*
Enteric group ..	9	—	—	0·1	*0·3*	*0·2*	—	*2·5*	*2·3*	—	—	—
Influenza	860	—	—	6·8	*6·4*	*5·8*	—	*0·3*	*0·1*	—	—	—
Malaria	297	2	—	2·3	*5·1*	*7·2*	1·7	*0·8*	*1·0*	—	*0·1*	*0·2*
Pneumonia ..	65	4	—	0·5	*0·4*	*0·5*	3·5	*2·9*	*4·8*	—	*0·1*	—
Pyrexia of unknown origin	41	—	—	0·3	*0·3*	*0·6*	—	—	*0·1*	—	—	—
Sandfly fever ..	415	—	—	3·3	*3·6*	*7·1*	—	—	—	—	—	—
Tuberculosis ..	47	2	36	0·4	*0·2*	*0·4*	1·7	*3·7*	*3·4*	16·5	*12·4*	*13·8*
Venereal diseases ..	360	—	—	2·8	*3·7*	*5·2*	—	—	—	—	*0·5*	*0·9*
Pyæmia and septicæmia	7	2	—	0·1	*0·0*	*0·0*	1·7	*2·2*	*2·1*	—	—	—
Other diseases due to infection	3,573	3	10	28·1	*29·3*	*25·8*	2·6	*3·4*	*1·6*	4·6	*3·8*	*1·8*
Contacts and carriers	49	—	—	0·4	*0·7*	*0·3*	—	—	—	—	*0·3*	*0·1*
Nervous system and brain	203	1	55	1·6	*1·7*	*1·9*	0·9	*2·3*	*2·1*	25·2	*27·2*	*24·6*
Eye	156	—	13	1·2	*1·1*	*1·1*	—	—	—	6·0	*7·6*	*8·1*
Ear and nose ..	345	—	15	2·7	*2·2*	*1·8*	—	*0·3*	—	6·9	*5·8*	*11·8*
Circulatory system	103	2	17	0·8	*1·0*	*1·2*	1·7	*3·1*	*2·6*	7·8	*10·7*	*7·6*
Lymphatic system..	16	2	3	0·1	*0·1*	*0·1*	1·7	—	*0·1*	1·4	*1·4*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	384	1	8	3·0	*3·1*	*2·9*	0·9	*0·4*	*1·0*	3·6	*4·2*	*4·2*
Teeth and gums ..	99	—	1	0·8	*0·6*	*0·6*	—	—	—	0·5	—	*0·2*
Digestive system ..	1,281	6	13	10·1	*9·4*	*7·6*	5·3	*4·2*	*5·2*	6·0	*3·0*	*3·6*
Disorders of nutrition and metabolism	11	—	3	0·1	*0·1*	*0·0*	—	—	*0·2*	1·4	*1·0*	*0·6*
Generative system..	248	—	—	2·0	*2·0*	*1·7*	—	—	—	—	*0·3*	*0·2*
Organs of locomotion	399	—	14	3·1	*2·8*	*2·9*	—	—	—	6·4	*8·7*	*11·2*
Areolar tissue and skin	750	—	3	5·9	*5·7*	*6·4*	—	*0·2*	—	1·4	*1·0*	*1·1*
Urinary organs ..	127	—	9	1·0	*0·8*	*0·5*	—	*0·9*	*0·6*	4·1	*2·1*	*2·9*
Tumours and cysts	51	6	4	0·4	*0·5*	*0·6*	5·3	*1·4*	*1·2*	1·8	*0·7*	*0·4*
Poisons	56	2	—	0·4	*0·3*	*0·3*	1·7	*1·5*	*0·8*	—	—	*0·1*
Debility	33	—	—	0·3	*0·2*	*0·5*	—	—	—	—	—	*0·3*
Other diseases ..	89	1	—	0·7	*0·7*	*0·8*	0·9	—	—	—	*0·2*	*0·1*
Total: all diseases	10,150	34	204	79·9	*82·9*	*85·4*	29·6	*30·3*	*29·6*	93·6	*91·1*	*95·0*
Total: all injuries	2,560	81	14	20·1	*17·1*	*14·6*	70·4	*69·7*	*70·4*	6·4	*8·9*	*5·0*
Total: all disabilities	12,710	115	218	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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Table III.—Sickness at Home and Abroad, analysed by Disease and Injury Groups.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total force.			Home.			Abroad.			Total force.		
	1932.	Average 1927–31.	Average 1921–26.	1932.	Average 1927–31.	Average 1921–26.	1932.	Average 1927–31.	Average 1921–26.	1932.	Average 1927–31.	Average 1921–26.	1932.	Average 1927–31.	Average 1921–26.	1932.	Average 1927–31.	Average 1921–26.
Diseases caused by infection ..	139·5	*167·7*	*175·1*	287·3	*355·0*	*467·6*	180·4	*219·3*	*255·9*	13·9	*15·3*	*16·7*	14·9	*14·6*	*15·8*	14·4	*15·0*	*16·2*
Contacts and carriers	1·6	*4·1*	*1·7*	1·4	*0·7*	*0·8*	1·5	*3·1*	*1·5*	13·5	*17·7*	*10·6*	12·5	*22·9*	*17·6*	13·3	*18·1*	*11·7*
Effects of parasites	1·0	*1·0*	*0·5*	1·9	*2·7*	*2·4*	1·3	*1·5*	*1·1*	15·1	*23·1*	*9·6*	21·9	*26·4*	*22·5*	18·0	*24·7*	*17·7*
Diseases of nervous system and brain	6·2	*6·5*	*8·1*	6·9	*10·2*	*12·0*	6·4	*7·5*	*9·1*	30·8	*37·6*	*31·6*	44·3	*45·7*	*54·7*	34·9	*40·6*	*39·9*
Diseases of the eye	4·9	*4·6*	*4·9*	4·8	*5·3*	*5·5*	4·9	*4·8*	*5·1*	18·8	*20·0*	*18·5*	29·2	*21·1*	*32·5*	21·6	*20·3*	*22·7*
Diseases of the ear and nose ..	9·9	*7·3*	*7·9*	13·1	*15·5*	*10·6*	10·8	*9·5*	*8·6*	20·1	*20·7*	*21·1*	13·9	*15·8*	*25·2*	18·0	*18·5*	*22·5*
Diseases of the circulatory system	3·2	*4·3*	*4·3*	3·3	*4·9*	*9·1*	3·2	*4·5*	*5·6*	31·7	*38·9*	*26·4*	30·3	*35·6*	*45·8*	31·3	*37·9*	*35·1*
Diseases of the lymphatic and ductless glands	0·5	*0·5*	*0·3*	0·6	*0·3*	*0·3*	0·5	*0·4*	*0·3*	31·4	*53·6*	*39·8*	38·6	*62·6*	*47·7*	33·6	*55·7*	*41·9*
Diseases of the respiratory system	10·5	*12·3*	*12·8*	16·1	*16·4*	*15·6*	12·0	*13·4*	*13·6*	19·7	*20·0*	*17·1*	15·3	*16·9*	*19·7*	18·1	*18·9*	*17·9*
Diseases of the teeth and gums ..	3·3	*2·6*	*2·8*	2·6	*2·7*	*3·2*	3·1	*2·7*	*2·9*	12·3	*10·8*	*9·4*	8·9	*11·7*	*10·6*	11·5	*11·1*	*9·8*
Diseases of the digestive system	40·2	*40·0*	*30·0*	40·1	*45·2*	*50·9*	40·2	*41·4*	*35·8*	19·8	*21·2*	*20·6*	20·9	*19·2*	*18·1*	20·1	*20·6*	*19·6*
Diseases due to disorders of nutrition or metabolism	0·4	*0·3*	*0·2*	0·2	*0·2*	*0·2*	0·3	*0·3*	*0·2*	31·9	*30·7*	*28·9*	20·5	*75·2*	*40·6*	29·8	*39·2*	*31·9*
Diseases of the generative system	6·5	*7·6*	*6·5*	11·2	*11·9*	*11·8*	7·8	*8·8*	*7·9*	26·3	*27·7*	*20·0*	26·5	*20·1*	*21·2*	26·4	*24·9*	*20·5*
Diseases of the organs of locomotion	11·5	*11·8*	*13·0*	15·2	*13.2*	*15·7*	12·5	*12·2*	*13·8*	22·3	*25·9*	*18·2*	19·7	*21·1*	*19·8*	21·4	*24·5*	*18·7*
Diseases of the areolar tissue and skin	26·4	*25·9*	*32·9*	16·1	*23·1*	*23·5*	23·5	*25·1*	*30·3*	16·7	*18·3*	*16·3*	18·5	*15·9*	*16·9*	17·0	*17·7*	*16·4*
Diseases of the urinary organs ..	3·3	*2·8*	*2·2*	5·7	*4·9*	*3·5*	4·0	*3·4*	*2·6*	29·4	*34·1*	*30·2*	37·0	*34·5*	*41·9*	32·4	*34·2*	*34·6*
Tumours and cysts	2·0	*2·0*	*2·6*	0·7	*2·0*	*2·7*	1·6	*2·0*	*2·7*	30·2	*20·6*	*18·1*	52·8	*32·5*	*22·0*	32·9	*23·9*	*19·2*
Poisons	0·4	*0·5*	*0·9*	5·3	*3·8*	*3·6*	1·8	*1·4*	*1·6*	13·3	*11·2*	*7·4*	8·1	*11·6*	*13·1*	8·9	*11·5*	*10·9*
All other diseases	2·6	*2·4*	*4·0*	2·4	*3·4*	*8·0*	2·5	*2·7*	*5·1*	10·2	*11·5*	*11·9*	11·9	*11·7*	*20·9*	10·7	*11·6*	*15·8*
Total, all diseases	273·8	*304·3*	*310·7*	434·8	*521·4*	*647·0*	318·4	*364·1*	*403·7*	17·1	*18·5*	*17·8*	17·1	*16·6*	*18·0*	17·1	*17·8*	*17·9*
General injuries	7·9	*8·6*	*5·3*	7·5	*9·5*	*15·3*	7·8	*8·8*	*8·1*	29·8	*28·7*	*17·3*	16·7	*20·1*	*16·4*	26·3	*26·2*	*16·8*
Local injuries	72·8	*62·6*	*58·1*	71·7	*76·1*	*68·8*	72·5	*66·3*	*61·1*	21·2	*22·5*	*19·8*	17·1	*17·5*	*20·3*	20·1	*21·0*	*20·0*
Total, all injuries	80·7	*71·2*	*63·4*	79·2	*85·6*	*84·1*	80·3	*75·1*	*69·2*	22·1	*23·3*	*19·6*	17·0	*17·8*	*19·6*	20·7	*21·6*	*19·6*
Total, all disabilities	354·6	*375·5*	*374·1*	514·1	*607·0*	*731·0*	398·7	*439·2*	*472·9*	18·2	*19·4*	*18·1*	17·1	*16·8*	*18·2*	17·8	*18·4*	*18·1*

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TABLE IV.—PULMONARY TUBERCULOSIS. 1932.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Type of unit.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	5	—	5	1·1	Officers, cadets and airman pilots.	7	1·8	Under 1 year ..	—	—	Flying units ..	19	1·2
20–24 ..	10	5	15	1·2	Apprentices ..	3	1·2	1 year and under 5 years.	19	1·5	Depôts	8	0·9
25–29 ..	7	1	8	1·1	Aircrafthands ..	7	1·3	5 years and under 10 years.	10	1·1	Miscellaneous ..	12	1·6
30–34 ..	5	—	5	1·2	Clerks and office workers.	5	1·4	10 years and over	10	1·3			
35–39 ..	1	2	3	1·4	Drivers and open air workers.	—	—						
40–44 ..	1	1	2	2·0	Wireless operators, riggers and armourers.	1	0·5						
45 and over ..	1	—	1	2·2	Fitters	7	1·1						
					Workshop workers	3	0·9						
					Metal workers ..	—	—						
					Other skilled trades	6	3·4						
Total ..	30	9	39	1·2	Total	39	1·2	Total	39	1·2	Total	39	1·2

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TABLE V.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS. 1932.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen—												
Under 18	1,344	—	1,344	492·6	—	492·6	61·0	—	61·0	553·6	—	553·6
18 and 19	3,057	37	3,094	324·8	*	327·4	88·3	*	87·6	413·1	*	415·0
20 and 21	3,632	873	4,505	291·3	466·2	325·2	104·3	69·9	97·7	395·6	536·1	422·9
22 and 23	2,721	2,130	4,851	300·6	439·4	361·6	100·0	85·0	93·4	400·6	524·4	455·0
24 and 25	2,316	1,981	4,297	228·8	460·9	335·8	79·9	95·4	87·0	308·7	556·3	422·8
26 and 27	2,010	702	2,712	203·5	457·3	269·2	78·6	84·0	80·0	282·1	541·3	349·2
28 and 29	1,399	470	1,869	223·0	442·6	278·2	62·2	76·6	65·8	285·2	519·2	344·0
30 to 34	2,439	1,031	3,470	185·3	412·2	252·7	43·1	56·3	47·0	228·4	468·5	299·7
35 and over	1,584	643	2,227	196·3	367·0	245·6	33·5	43·5	36·4	229·8	410·5	282·0
Airmen—all ages	20,502	7,867	28,369	270·5	440·6	317·6	77·6	77·9	77·7	348·1	518·5	395·3
Officers and cadets—all ages..	2,551	957	3,508	301·1	387·7	324·7	105·8	89·8	101·5	406·9	477·5	426·2
All ranks—all ages	23,053	8,824	31,877	273·8	434·8	318·4	80·7	79·2	80·3	354·6	514·1	398·7

* Not calculated.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhœa—acute ..	129	5·6	24·3	68·9	120	13·6	22·7	69·3	249	7·8	47·0	69·1
relapse ..	8	0·3	1·2	56·0	20	2·3	3·1	57·0	28	0·9	4·3	56·7
Total ..	137	5·9	25·5	68·1	140	15·9	25·8	67·5	277	8·7	51·3	67·8
Syphilis—admissions :												
Primary	13	0·6	1·4	40·0	18	2·0	2·0	40·2	31	1·0	3·4	40·1
Secondary	1	0·0	0·1	35·0	2	0·2	0·3	54·0	3	0·1	0·4	47·7
Congenital	—	—	—	—	1	0·1	0·3	96·0	1	0·0	0·3	96·0
For further treatment	16	0·7	1·5	34·4	—	—	—	—	16	0·5	1·5	34·4
Total	30	1·3	3·0	36·9	21	2·4	2·5	44·2	51	1·6	5·6	39·9
Soft chancre	2	0·1	0·2	32·5	30	3·4	2·8	34·6	32	1·0	3·0	34·5
Total, venereal disease 1932	169	7·3	28·7	62·1	191	21·6	31·2	59·8	360	11·3	59·9	60·9
1931	*245*	*10·4*	*42·0*	*62·6*	*231*	*25·8*	*34·7*	*54·8*	*476*	*14·7*	*76·7*	*58·8*
1930	*293*	*12·7*	*50·6*	*62·9*	*224*	*25·4*	*30·2*	*49·1*	*517*	*16·1*	*80·6*	*56·9*
1929	*250*	*11·0*	*37·8*	*55·2*	*216*	*25·5*	*32·9*	*55·6*	*466*	*15·0*	*70·7*	*55·4*
1928	*302*	*13·5*	*44·6*	*54·0*	*254*	*31·3*	*34·4*	*49·6*	*556*	*18·2*	*79·0*	*52·0*
1927	*269*	*12·5*	*40·8*	*55·4*	*259*	*30·1*	*31·6*	*44·6*	*528*	*17·5*	*72·4*	*50·1*
1926	*357*	*14·9*	*59·5*	*60·8*	*208*	*23·0*	*31·8*	*55·9*	*565*	*17·1*	*91·3*	*59·0*
1925	*400*	*16·8*	*57·0*	*52·0*	*256*	*27·9*	*36·4*	*51·9*	*656*	*19·9*	*93·4*	*51·9*
1924	*432*	*19·2*	*59·3*	*50·3*	*272*	*30·0*	*44·0*	*59·2*	*704*	*22·3*	*103·3*	*53·8*
1923	*482*	*23·8*	*64·8*	*49·1*	*299*	*31·4*	*42·3*	*51·7*	*781*	*26·2*	*107·2*	*50·1*
1922	*525*	*24·9*	*76·1*	*52·9*	*263*	*33·5*	*34·4*	*47·7*	*788*	*27·2*	*110·5*	*51·2*
1921	*709*	*32·3*	*94·2*	*48·5*	*314*	*49·2*	*52·2*	*60·7*	*1,023*	*36·1*	*146·4*	*52·2*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 23,053. (Includes Fleet Air Arm at Home.)				Mediterranean Littoral. Average strength, 3,895.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily	Duration of case.			No. sick daily	Duration of case.
Diseases caused by Infection.				Days.				Days.
Dysentery—								
Clinical, primary ..	—	—	—	—	—	—	—	—
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	—	—	—	—	5	1·3	0·3	20·6
,, recurrent ..	—	—	—	—	—	—	—	—
Amœbic, primary ..	—	—	—	—	4	1·0	0·4	33·5
,, recurrent ..	—	—	—	—	—	—	—	—
Total—dysentery ..	—	—	—	—	9	2·3	0·6	26·3
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	—	—
Paratyphoid fever, A & B	1	0·0	0·3	92·0	2	0·5	0·3	55·5
Clinical enteric	—	—	—	—	1	0·3	0·1	48·0
Enteritis	76	3·3	1·7	8·1	102	26·2	1·8	6·5
Influenza	743	32·2	17·4	8·6	59	15·1	1·2	7·7
Malaria—								
Clinical, primary	—	—	—	—	6	1·5	0·3	17·2
,, recurrent ..	4	0·2	0·1	9·5	2	0·5	0·0	4·5
Quartan, primary and recurrent.	—	—	—	—	—	—	—	—
Benign tertian, primary ..	—	—	—	—	40	10·3	1·1	10·3
,, ,, recurrent	10	0·4	0·4	13·7	12	3·1	0·3	10·1
Malignant tertian, primary	—	—	—	—	20	5·1	0·8	15·2
,, ,, recurrent	—	—	—	—	—	—	—	—
Total—malaria	14	0·6	0·5	12·5	80	20·5	2·6	11·8
Pyrexia of unknown origin ..	9	0·4	0·2	8·1	20	5·1	0·5	9·0
Sandfly fever	—	—	—	—	80	20·5	1·3	5·8
Tuberculosis	36	1·6	6·1	61·6	5	1·3	1·3	93·2
Upper air passage infections	1,400	60·7	29·9	7·8	307	78·8	5·5	6·6
Venereal disease	169	7·3	28·7	62·1	79	20·3	12·5	57·8
Other diseases caused by infection	767	33·3	37·6	17·9	232	59·6	10·8	17·0
Total—all diseases caused by infection ..	3,215	139·5	122·2	13·9	976	250·6	38·6	14·5
All other diseases ..	3,098	134·4	172·9	20·4	506	129·9	28·3	20·5
Total—all diseases ..	6,313	273·8	295·1	17·1	1,482	380·5	66·9	16·5
Injuries—								
General injuries	182	7·9	14·8	29·8	30	7·7	1·2	14·7
Local injuries	1,679	72·8	97·3	21·2	275	70·6	11·7	15·6
Total—all injuries ..	1,861	80·7	112·1	22·1	305	78·3	12·9	15·5
Total—all disabilities ..	8,174	354·6	407·2	18·2	1,787	458·8	79·8	16·3

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Diseases caused by Infection, 1932.

Iraq. Average strength, 2,089.				India. Average strength, 2,062.				Total Force. Average strength, 31,877.			
No. of cases	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case.			No. sick daily	Duration of case.			No. sick daily	Duration of case.
			Days.				Days.				Days.
3	1·4	0·0	5·0	1	0·5	0·1	30·0	4	0·1	0·1	11·2
—	—	—	—	—	—	—	—	—	—	—	—
7	3·4	0·5	25·7	30	14·6	1·3	16·2	42	1·3	2·1	18·3
—	—	—	—	1	0·5	0·1	47·0	1	0·0	0·1	47·0
11	5·3	0·9	30·8	10	4·8	0·6	21·1	25	0·8	1·9	27·4
3	1·4	0·3	41·3	1	0·5	0·4	135·0	4	0·1	0·7	64·8
24	11·5	1·8	27·4	43	20·9	2·5	21·1	76	2·4	4·9	23·7
1	0·5	0·2	66·0	3	0·5	1·0	122·3	4	0·1	1·2	108·2
—	—	—	—	—	—	—	—	3	0·1	0·6	67·7
1	0·5	0·4	134·0	—	—	—	—	2	0·1	0·5	91·0
102	48·8	2·6	9·4	51	24·7	0·9	6·3	336	10·5	7·0	7·7
13	6·2	0·4	10·2	31	15·0	0·6	6·8	860	27·0	19·8	8·4
5	2·4	0·2	18·0	10	4·8	0·3	10·0	24	0·8	0·9	13·1
—	—	—	—	3	1·5	0·1	12·3	9	0·3	0·2	9·3
2	1·0	0·1	17·0	—	—	—	—	2	0·1	0·1	17·0
25	12·0	1·2	18·0	78	37·8	3·0	14·1	149	4·7	5·5	13·6
8	3·8	0·3	14·6	36	17·5	0·9	9·3	67	2·1	2·0	10·9
2	1·0	0·1	12·0	16	7·8	0·5	10·9	42	1·3	1·5	13·4
1	0·5	0·0	16·0	3	1·5	0·1	18·0	4	0·1	0·2	17·5
43	20·6	2·0	17·0	146	70·8	4·9	12·3	297	9·3	10·5	12·9
9	4·3	0·4	14·6	2	1·0	0·0	3·0	41	1·3	1·1	9·9
248	118·7	5·7	8·4	86	41·7	2·0	8·5	415	13·0	9·0	7·9
2	1·0	0·4	78·5	4	1·9	0·6	54·0	47	1·5	8·5	66·1
198	94·8	4·5	8·3	151	73·2	2·6	6·3	2,102	65·9	43·2	7·5
41	19·6	7·4	66·0	18	8·7	2·3	46·8	360	11·3	59·9	60·9
88	42·1	5·6	23·5	85	41·2	3·5	15·1	1,207	37·9	59·5	18·0
770	368·6	31·3	14·9	620	300·7	20·9	12·3	5,750	180·4	225·6	14·4
348	166·6	25·4	26·7	315	152·8	14·4	16·7	4,400	138·0	248·4	20·7
1,118	535·2	56·7	18·6	935	453·4	35·2	13·8	10,150	318·4	474·0	17·1
12	5·7	0·8	23·8	14	6·8	0·5	13·6	248	7·8	17·8	26·3
127	60·8	8·2	23·6	172	83·4	7·0	15·0	2,312	72·5	126·8	20·1
139	66·5	9·0	23·6	186	90·2	7·6	14·9	2,560	80·3	144·6	20·7
1,257	601·7	65·7	19·1	1,121	543·6	42·8	14·0	12,710	398·7	618·7	17·8

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT. 1932.

Type of unit.	——	Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	200·6	0·9	5·5	9·8	17·8	450·0	0·8	3·4	21·2	17·3	262·1	0·8	5·0	12·6	17·6
	Injury	81·1	3·3	0·5	4·8	21·9	96·1	5·7	0·3	4·3	16·3	84·8	3·9	0·4	4·7	20·4
	Total	281·7	4·2	6·0	14·6	19·0	546·1	6·5	3·7	25·5	17·1	346·9	4·7	5·4	17·3	18·3
Depôts (store and repair), ground schools and armoured car companies	Disease	387·5	1·5	8·3	17·4	16·4	443·6	1·1	3·6	20·3	16·7	405·0	1·3	6·8	18·3	16·5
	Injury	80·0	0·9	0·6	4·7	21·6	73·5	1·4	—	3·6	18·1	78·0	1·1	0·4	4·4	20·6
	Total	467·5	2·4	8·9	22·1	17·3	517·1	2·5	3·6	23·9	16·9	483·0	2·4	7·2	22·7	17·2
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	303·9	1·3	10·8	14·2	17·1	397·4	0·9	4·6	18·6	17·2	331·7	1·2	8·9	15·5	17·1
	Injury	80·7	1·7	0·5	5·0	22·8	56·9	0·5	—	2·7	17·3	73·6	1·4	0·4	4·3	21·5
	Total	384·6	3·0	11·3	19·2	18·3	454·3	1·4	4·6	21·3	17·2	405·3	2·6	9·3	19·8	17·9
All units	Disease	273·8	1·1	7·4	12·8	17·1	434·8	0·9	3·7	20·3	17·1	318·4	1·1	6·4	14·9	17·1
	Injury	80·7	2·3	0·6	4·9	22·1	79·2	3·1	0·1	3·7	17·0	80·3	2·5	0·4	4·5	20·7
	Total	354·6	3·4	8·0	17·7	18·2	514·1	4·0	3·8	24·0	17·1	398·7	3·6	6·8	19·4	17·8

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS. 1932.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	43·6	60·9	6·3	12·7	41·9	142·3	307·7	99·7	407·4
Aircrafthands	32·8	67·7	14·8	13·5	41·9	165·7	336·3	73·6	409·9
Apprentices	33·9	93·6	0·4	10·4	79·4	201·8	419·5	67·4	486·9
Wireless operators, riggers, and armourers	23·9	45·5	15·8	12·4	30·1	140·2	267·9	80·9	348·8
Clerks and office workers ..	17·1	55·0	12·6	16·3	27·0	155·6	283·6	59·3	342·9
Drivers and open air workers	26·9	76·3	16·8	10·7	38·7	170·6	340·1	67·3	407·4
Fitters	21·4	65·0	10·0	10·4	32·7	156·7	296·3	100·2	396·5
Metal workers	24·8	66·2	9·7	8·3	49·7	184·8	343·4	82·8	426·2
Workshop workers	19·5	67·2	15·8	9·6	34·4	175·6	322·1	79·0	401·1
Other skilled trades.. ..	20·4	67·8	11·3	13·0	48·0	150·9	311·5	58·8	370·3
Total force	27·0	65·9	11·3	12·0	40·2	162·0	318·4	80·3	398·7

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TABLE X.—INJURIES. 1932.

—	Number of cases.							
	Airscrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	15	944	118	25	22	295	1,419	*56*
Off duty	—	211	5	442	5	386	1,049	*41*
Not stated	—	34	—	1	—	33	68	*3*
Total	15	1,189	123	468	27	714	2,536	*100*
Nature of injury:								
General	2	5	77	115	1	31	231	*9*
Head or face ..	—	148	20	134	3	120	425	*17*
Trunk	1	76	3	21	1	43	145	*6*
Upper extremity .	11	139	6	58	20	163	397	*15*
Lower extremity .	1	821	17	140	2	357	1,338	*53*
Total	15	1,189	123	468	27	714	2,536	*100*
Deaths:								
On duty	—	—	46	—	—	6	52	*64*
Off duty	—	—	3	21	—	5	29	*36*
Total	—	—	49	21	—	11	81	*100*

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TABLE XI.—FLYING CASUALTIES ON DUTY.

Rank.	Number of casualties.			
	1929.	1930.	1931.	1932.
Officers.				
Killed	*23*	*36* (*5*)	*40*	29
Injured	*62*	*41* (*1*)	*39*	37
Cadets.				
Killed	—	*3*	*3*	—
Injured	*4*	*1*	*2*	1
Airmen.				
Killed	*16*	*29* (*1*)	*25*	17
Injured	*34*	*34*	*38*	34
All ranks.				
Killed	*39*	*68* (*6*)	*68*	46
Injured	*100*	*76* (*1*)	*79*	72
Total casualties	*139*	*144* (*7*)	*147*	118
Deaths—as a percentage of total flying casualties ..	*28*	*47*	*46*	39
Average duration of each case (days) :—				
Deaths included	*33*	*31*	*25*	24
Deaths excluded	*46*	*58*	*46*	39

Note.—The numbers in brackets represent casualties in accidents to airships (6 deaths) or kite balloons (one injured). These are included in the totals.

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Table XII.—Nosological Table for Home, Abroad, and Total Force, 1932.

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases caused by infection.																			
Diphtheria	19	—	—	0·8	2·4	46·8	17	—	—	—	1·9	1·6	33·6	36	—	—	1·1	4·0	40·6
*Dysentery	—	—	—	—	—	—	76	—	2	—	8·6	4·9	23·7	76	—	—	2·4	4·9	23·7
*Enteric group	1	—	—	0·0	0·3	92·0	8	—	—	—	0·9	2·0	90·8	9	—	—	0·3	2·2	90·9
*Enteritis (acute) and gastro-enteritis (acute)	76	—	—	3·3	1·7	8·1	260	—	—	—	29·5	5·4	7·6	336	—	—	10·5	7·0	7·7
*Influenza (including influenzal pneumonia)	743	—	—	32·2	17·4	8·6	117	—	—	—	13·3	2·4	7·5	860	—	—	27·0	19·8	8·4
Leishmaniasis	1	—	—	0·0	0·2	80·0	1	—	—	—	0·1	0·1	39·0	2	—	—	0·1	0·3	59·5
*Malaria	14	—	—	0·6	0·5	12·5	283	2	1	—	32·1	10·0	12·9	297	2	—	9·3	10·5	12·9
Measles	17	—	—	0·7	0·9	18·9	2	—	—	—	0·2	0·1	23·0	19	—	—	0·6	1·0	19·3
Mumps	14	—	—	0·6	0·8	21·6	3	—	—	—	0·3	0·1	11·7	17	—	—	0·5	0·9	19·9
Pneumonia	39	4	—	1·7	4·0	37·7	26	—	5	—	2·9	3·5	49·0	65	4	—	2·0	7·5	42·2
*Pyrexia of unknown origin	9	—	—	0·4	0·2	8·1	32	—	—	—	3·6	0·9	10·4	41	—	—	1·3	1·1	9·9
Rheumatism (acute) ..	33	—	6	1·4	4·7	52·4	9	—	—	—	1·0	0·6	23·3	42	—	6	1·3	5·3	46·2
Rubella	48	—	—	2·1	2·4	17·9	1	—	—	—	0·1	0·0	13·0	49	—	—	1·5	2·4	17·8
*Sandfly fever	—	—	—	—	—	—	415	—	—	—	47·0	9·0	7·9	415	—	—	13·0	9·0	7·9
Scarlet fever	18	—	—	0·8	2·4	48·7	37	—	—	—	4·2	3·3	32·7	55	—	—	1·7	5·7	37·9
Smallpox	—	—	—	—	—	—	1	—	—	—	0·1	0·1	43·0	1	—	—	0·0	0·1	43·0
Tuberculosis.																			
Respiratory	30	2	27	1·3	3·9	47·3	9	—	7	4	1·0	1·9	76·2	39	2	31	1·2	5·8	54·0
Other	6	—	4	0·3	2·2	133·0	2	—	1	1	0·2	0·6	102·0	8	—	5	0·3	2·7	125·2
*Total—Tuberculosis	36	2	31	1·6	6·1	61·6	11	—	8	5	1·2	2·4	80·9	47	2	36	1·5	8·5	66·1

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Acute upper air passage infections.																			
Laryngitis	31	—	—	1·3	1·0	11·5	6	—	—	—	0·7	0·1	5·3	37	—	—	1·2	1·1	10·5
Pharyngitis and naso-pharyngitis	745	—	—	32·3	13·4	6·6	358	—	—	—	40·6	5·8	5·9	1,103	—	—	34·6	19·1	6·3
Rhinitis, acute catarrhal	38	—	—	1·6	0·6	5·7	17	—	—	—	1·9	0·2	4·8	55	—	—	1·7	0·8	5·4
Tonsillitis (including quinsy and Vincent's angina)	586	—	—	25·4	15·0	9·3	321	—	—	—	36·4	7·2	8·3	907	—	—	28·5	22·2	9·0
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	1,400	—	—	60·7	29·9	7·8	702	—	—	—	79·6	13·3	6·9	2,102	—	—	65·9	43·2	7·5
Vaccinia	68	—	—	2·9	1·0	5·6	—	—	—	—	—	—	—	68	—	—	2·1	1·0	5·6
Venereal disease.																			
Gonorrhœa	137	—	—	5·9	25·5	68·1	140	—	1	—	15·9	25·8	67·5	277	—	—	8·7	51·3	67·8
Syphilis	30	—	—	1·3	3·0	36·9	21	—	2	—	2·4	2·5	44·2	51	—	—	1·6	5·6	39·9
Soft chancre	2	—	—	0·1	0·2	32·5	30	—	—	—	3·4	2·8	34·6	32	—	—	1·0	3·0	34·5
*TOTAL—VENEREAL DISEASES	169	—	—	7·3	28·7	62·1	191	—	3	—	21·6	31·2	59·8	360	—	—	11·3	59·9	60·9
Abscess, hand and finger	30	—	—	1·3	1·2	15·0	6	—	—	—	0·7	0·2	10·5	36	—	—	1·1	1·4	14·3
Abscess, other	43	—	—	1·9	1·6	13·3	28	—	—	—	3·2	0·9	11·4	71	—	—	2·2	2·4	12·5
Boils	126	—	—	5·5	3·4	9·9	55	—	—	—	6·2	1·6	10·5	181	—	—	5·7	5·0	10·1
Carbuncles	9	—	—	0·4	0·2	7·7	9	—	—	—	1·0	0·4	15·6	18	—	—	0·6	0·6	11·6
Cellulitis	233	—	—	10·1	6·4	10·0	194	—	1	—	22·0	5·3	10·1	427	—	—	13·4	11·7	10·0
Lymphadenitis and lymph-angitis	33	—	—	1·4	1·4	15·6	24	—	—	—	2·7	1·6	24·8	57	—	—	1·8	3·0	19·5
Osteo-myelitis, periostitis, and osteitis	11	—	2	0·5	2·4	81·4	2	—	2	1	0·2	1·0	190·5	13	—	3	0·4	3·5	98·2
Pyæmia, septicæmia ..	4	1	—	0·2	0·3	27·8	3	1	—	—	0·3	0·1	7·3	7	2	—	0·2	0·4	19·0
Ulcer	3	—	—	0·1	0·1	10·0	5	—	—	—	0·6	0·3	21·4	8	—	—	0·3	0·4	17·1
Other diseases caused by infection	18	2	1	0·8	1·7	34·6	17	1	1	—	1·9	1·1	24·6	35	3	1	1·1	2·8	29·8
*TOTAL—DISEASES CAUSED BY INFECTION	3,215	9	40	139·5	122·2	13·9	2,535	4	23	6	287·3	103·4	14·9	5,750	13	46	180·4	225·6	14·4

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1932—*continued.*

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total Force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers ..	37	—	—	1·6	1·4	13·5	12	—	—	—	1·4	0·4	12·5	49	—	—	1·5	1·8	13·3
Effects of parasites ..	23	1	—	1·0	0·9	15·1	17	—	1	—	1·9	1·0	21·9	40	1	—	1·3	2·0	18·0
Other diseases classified by systems. Diseases of nervous system and brain.																			
Neuritis	23	—	1	1·0	1·8	29·2	11	—	1	1	1·2	0·8	29·1	34	—	2	1·1	2·7	29·1
Nerve paralysis	5	—	—	0·2	0·6	46·6	2	—	1	1	0·2	0·4	78·0	7	—	1	0·2	1·1	55·6
Epilepsy (including observation cases)	11	—	7	0·5	1·2	40·2	3	—	1	1	0·3	0·2	29·3	14	—	8	0·4	1·4	37·9
Psychoneurosis	38	—	19	1·6	2·9	28·0	20	—	8	2	2·3	2·8	51·0	58	—	21	1·8	5·7	35·9
Mental diseases (including observation cases) ..	9	—	8	0·4	1·8	73·0	3	—	4	4	0·3	1·4	173·0	12	—	12	0·4	3·2	98·0
Other diseases of nervous system	56	1	10	2·4	3·6	23·3	22	—	3	1	2·5	1·6	27·3	78	1	11	2·4	5·2	24·4
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	142	1	45	6·2	11·9	30·8	61	—	18	10	6·9	7·4	44·3	203	1	55	6·4	19·3	34·9

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Diseases of the Eye.																			
Infections	80	—	4	3·5	4·8	22·0	29	—	2	—	3·3	1·6	19·9	109	—	4	3·4	6·4	21·4
Other diseases of the eye	34	—	7	1·5	1·0	11·2	13	—	6	2	1·5	1·8	50·0	47	—	9	1·5	2·8	21·9
TOTAL—DISEASES OF THE EYE	114	—	11	4·9	5·8	18·8	42	—	8	2	4·8	3·3	29·2	156	—	13	4·9	9·2	21·6
Diseases of ear and nose.																			
Otitis media, acute ..	30	—	—	1·3	1·8	22·0	29	—	—	—	3·3	1·0	13·0	59	—	—	1·9	2·8	17·6
Otitis media, chronic ..	30	—	11	1·3	2·7	33·1	4	—	1	2	0·5	0·4	34·0	34	—	13	1·1	3·1	33·2
Other diseases of ear and nose	169	—	2	7·3	8·1	17·5	83	—	2	—	9·4	3·0	13·3	252	—	2	7·9	11·1	16·1
TOTAL—DISEASES OF EAR AND NOSE	229	—	13	9·9	12·6	20·1	116	—	3	2	13·1	4·4	13·9	345	—	15	10·8	17·0	18·0
Diseases of the circulatory system.																			
Endocarditis, acute ..	5	2	5	0·2	1·4	105·0	—	—	—	—	—	—	—	5	2	5	0·2	1·4	105·0
Valvular disease of the heart	4	—	3	0·2	1·0	89·2	5	—	2	2	0·6	0·9	63·0	9	—	5	0·3	1·8	74·7
Disease of myocardium ..	3	—	2	0·1	0·2	28·3	1	—	—	—	0·1	0·1	40·0	4	—	2	0·1	0·3	31·2
Disordered action of the heart	19	—	3	0·8	0·8	15·5	3	—	—	—	0·3	0·1	17·7	22	—	3	0·7	0·9	15·8
Varix	24	—	—	1·0	1·5	23·3	8	—	—	—	0·9	0·3	13·8	32	—	—	1·0	1·8	20·9
Other diseases of the circulatory system ..	19	—	2	0·8	1·4	27·7	12	—	1	—	1·4	1·0	30·0	31	—	2	1·0	2·4	28·6
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	74	2	15	3·2	6·4	31·7	29	—	3	2	3·3	2·4	30·3	103	2	17	3·2	8·8	31·3
Diseases of lymphatic system and ductless glands	11	2	2	0·5	0·9	31·4	5	—	1	1	0·6	0·5	38·6	16	2	3	0·5	1·5	33·6

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1932—*continued.*

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total Force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory system. (*a*)																			
Bronchitis	106	—	3	4·6	6·3	21·8	52	—	2	—	5·9	2·4	16·6	158	—	3	5·0	8·7	20·1
Tracheitis	82	—	—	3·6	1·4	6·3	62	—	—	—	7·0	1·1	6·2	144	—	—	4·5	2·5	6·3
Asthma	10	—	2	0·4	0·6	21·4	5	—	—	1	0·6	0·2	14·4	15	—	3	0·5	0·8	19·1
Pleurisy	35	1	1	1·5	3·8	39·6	17	—	1	1	1·9	1·4	29·3	52	1	2	1·6	5·1	36·2
Other diseases of the respiratory system ..	9	—	—	0·4	0·9	38·1	6	—	3	—	0·7	1·0	59·5	15	—	—	0·5	1·9	46·7
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	242	1	6	10·5	13·0	19·7	142	—	6	2	16·1	6·0	15·3	384	1	8	12·0	19·0	18·1
Diseases of teeth and gums	76	—	1	3·3	2·5	12·3	23	—	1	—	2·6	0·6	8·9	99	—	1	3·1	3·1	11·5
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	204	—	—	8·8	7·0	12·6	15	—	—	—	1·7	0·7	16·3	219	—	—	6·9	7·7	12·8
Gastritis, acute	102	—	—	4·4	2·6	9·5	48	—	—	—	5·4	1·3	9·6	150	—	—	4·7	3·9	9·5
Gastritis, chronic ..	11	—	—	0·5	0·7	23·9	8	—	3	—	0·9	1·1	50·1	19	—	—	0·6	1·8	34·9

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Dyspepsia	21	—	—	0·9	0·5	9·3	12	—	—	—	1·4	0·4	11·6	33	—	—	1·0	0·9	10·2
Appendicitis	262	—	—	11·4	15·5	21·7	56	1	3	—	6·3	5·5	36·1	318	1	—	10·0	21·1	24·2
Hernia	67	—	1	2·9	6·0	32·7	15	—	—	—	1·7	1·2	29·9	82	—	1	2·6	7·2	32·2
Constipation	32	—	—	1·4	0·7	7·5	40	—	1	—	4·5	1·2	11·4	72	—	—	2·3	1·9	9·7
Colic	33	—	—	1·4	0·9	9·8	14	—	—	—	1·6	0·4	9·4	47	—	—	1·5	1·2	9·7
Hæmorrhoids	64	—	—	2·8	3·5	19·8	36	—	—	—	4·1	1·0	10·3	100	—	—	3·1	4·5	16·4
Jaundice	12	1	—	0·5	0·7	22·0	39	—	—	—	4·4	1·6	15·4	51	1	—	1·6	2·4	17·0
Other diseases of the digestive system	119	2	9	5·2	11·9	36·5	71	2	7	3	8·0	5·8	29·8	190	4	12	6·0	17·7	34·0
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	927	3	10	40·2	50·0	19·8	354	3	14	3	40·1	20·2	20·9	1,281	6	13	40·2	70·2	20·1
Diseases due to disorders of nutrition or metabolism	9	—	3	0·4	0·8	31·9	2	—	1	—	0·2	0·1	20·5	11	—	3	0·3	0·9	29·8
Diseases of the Generative System.																			
Phimosis	25	—	—	1·1	1·4	19·8	14	—	—	—	1·6	0·6	16·5	39	—	—	1·2	2·0	18·6
Balanitis	17	—	—	0·7	0·4	8·9	12	—	—	—	1·4	0·3	10·2	29	—	—	0·9	0·7	9·4
Urethritis	55	—	—	2·4	5·1	34·0	38	—	—	—	4·3	4·0	38·3	93	—	—	2·9	9·1	35·8
Varicocele	15	—	—	0·7	1·3	32·3	10	—	—	—	1·1	0·5	16·6	25	—	—	0·8	1·8	26·0
Hydrocele	6	—	—	0·3	0·4	21·7	1	—	—	—	0·1	0·0	7·0	7	—	—	0·2	0·4	19·6
Epididymitis	6	—	—	0·3	0·6	34·5	3	—	—	—	0·3	0·1	17·3	9	—	—	0·3	0·7	28·8
Other diseases of the generative system	25	—	—	1·1	1·6	23·3	21	—	—	—	2·4	1·6	28·1	46	—	—	1·4	3·2	25·5
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	149	—	—	6·5	10·7	26·3	99	—	—	—	11·2	7·2	26·5	248	—	—	7·8	17·9	26·4

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 30.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1932—*continued.*

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total Force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	11	—	3	0·5	2·0	67·4	2	—	2	—	0·2	0·4	78·0	13	—	3	0·4	2·4	69·0
Diseases of the joints ..	89	—	5	3·9	7·5	30·9	44	—	5	1	5·0	3·7	31·0	133	—	6	4·2	11·3	31·0
Myalgia and lumbago ..	70	—	—	3·0	2·1	11·0	53	—	—	—	6·0	1·6	10·8	123	—	—	3·9	3·7	10·9
Diseases of muscles, tendons and bursæ ..	64	—	—	2·8	2·6	14·8	27	—	1	—	3·1	1·1	14·7	91	—	—	2·9	3·7	14·7
Deformities of limbs ..	31	—	4	1·3	1·9	22·3	8	—	1	1	0·9	0·4	18·4	39	—	5	1·2	2·3	21·5
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	265	—	12	11·5	16·1	22·3	134	—	9	2	15·2	7·2	19·7	399	—	14	12·5	23·3	21·4
Diseases of Areolar Tissue or Skin.																			
Impetigo	141	—	—	6·1	6·6	17·2	42	—	—	—	4·8	1·6	14·2	183	—	—	5·7	8·2	16·5
Scabies	59	—	—	2·6	2·2	13·5	—	—	—	—	—	—	—	59	—	—	1·9	2·2	13·5
Dermatitis	59	—	—	2·6	3·2	20·2	21	—	1	—	2·4	1·4	23·8	80	—	—	2·5	4·6	21·1
Urticaria	25	—	—	1·1	0·7	10·1	7	—	—	—	0·8	0·1	6·3	32	—	—	1·0	0·8	9·3
Eczema	21	—	—	0·9	1·9	33·3	8	—	—	—	0·9	0·4	19·6	29	—	—	0·9	2·3	29·6
Herpes	35	—	—	1·5	1·1	11·3	13	—	—	—	1·5	0·3	7·5	48	—	—	1·5	1·4	10·3
Psoriasis	17	—	—	0·7	1·1	23·7	4	—	—	—	0·5	0·1	10·7	21	—	—	0·7	1·2	21·2
Tinea cruris	122	—	—	5·3	3·6	10·7	4	—	—	—	0·5	0·1	12·0	126	—	—	4·0	3·7	10·7

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Ingrowing toe-nail ..	31	—	—	1·3	1·6	18·4	11	—	—	—	1·2	0·4	14·0	42	—	—	1·3	2·0	17·2
Other diseases of the skin	98	—	3	4·3	5·7	21·3	32	—	2	—	3·6	2·7	30·7	130	—	3	4·1	8·4	23·6
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	608	—	3	26·4	27·7	16·7	142	—	3	—	16·1	7·2	18·5	750	—	3	23·5	34·8	17·0
Diseases of Urinary Organs.																			
Nephritis	10	—	4	0·4	1·2	43·2	6	—	3	3	0·7	1·2	72·5	16	—	7	0·5	2·4	54·2
Pyelitis	4	—	—	0·2	0·5	45·5	5	—	—	—	0·6	0·4	29·4	9	—	—	0·3	0·9	36·6
Cystitis	16	—	—	0·7	0·7	16·4	12	—	1	—	1·4	1·1	34·8	28	—	—	0·9	1·9	24·3
Albuminuria	14	—	1	0·6	0·7	18·1	4	—	—	—	0·5	0·2	13·7	18	—	1	0·6	0·8	17·1
Other diseases of urinary organs	33	—	1	1·4	3·1	34·4	23	—	3	—	2·6	2·2	34·6	56	—	1	1·8	5·3	34·5
TOTAL—DISEASES OF URINARY ORGANS ..	77	—	6	3·3	6·2	29·4	50	—	7	3	5·7	5·1	37·0	127	—	9	4·0	11·2	32·4
Tumours and Cysts.																			
Tumours, non-malignant	11	1	3	0·5	0·9	29·3	2	—	1	—	0·2	0·2	44·0	13	1	3	0·4	1·1	31·5
Tumours, malignant ..	5	5	1	0·2	1·4	104·0	—	—	—	—	—	—	—	5	5	1	0·2	1·4	104·0
Tumours, undiagnosed ..	—	—	—	—	—	—	2	—	2	—	0·2	0·6	109·5	2	—	—	0·1	0·6	109·5
Cysts	29	—	—	1·3	1·4	17·9	2	—	—	—	0·2	0·0	5·0	31	—	—	1·0	1·4	17·1
TOTAL—TUMOURS AND CYSTS	45	6	4	2·0	3·7	30·2	6	—	3	—	0·7	0·9	52·8	51	6	4	1·6	4·6	32·9
Poisons	9	1	—	0·4	0·3	13·3	47	1	—	—	5·3	1·0	8·1	56	2	—	1·8	1·4	8·9
No appreciable disease ..	38	—	—	1·6	0·9	9·0	11	—	—	—	1·2	0·2	7·7	49	—	—	1·5	1·2	8·7
Debility	23	—	—	1·0	0·8	12·2	10	—	1	—	1·1	0·4	16·5	33	—	—	1·0	1·2	13·5
TOTAL—ALL DISEASES	6,313	26	171	273·8	295·1	17·1	3,837	8	102	33	434·8	178·9	17·1	10,150	34	204	318·4	474·0	17·1

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1932—*continued.*

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total Force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
General Injuries.						Days.							Days.						Days.
Burns and scalds ..	6	2	—	0·3	0·3	21·0	2	1	—	—	0·2	0·1	15·0	8	3	—	0·3	0·4	19·5
Heat exhaustion, heat hyperpyrexia and sunstroke	1	—	—	0·0	0·0	6·0	8	—	—	—	0·9	0·2	11·2	9	—	—	0·3	0·3	10·7
Drowning and effects of immersion	7	7	—	0·3	—	—	4	4	—	—	0·5	—	—	11	11	—	0·3	—	—
Minor injuries	66	—	—	2·9	1·9	10·5	18	—	—	—	2·0	0·6	11·4	84	—	—	2·6	2·5	10·7
Multiple fractures ..	95	32	2	4·1	12·3	47·3	20	11	2	—	2·3	1·8	33·0	115	43	2	3·6	14·1	44·9
Gunshot wounds.. ..	1	—	—	0·0	0·1	42·0	—	—	—	—	—	—	—	1	—	—	0.0	0·1	42·0
Multiple wounds.. ..	1	—	—	0·0	0·1	38·0	1	—	—	—	0·1	0·1	29·0	2	—	—	0·1	0·2	33·5
Other injuries	5	—	—	0·2	0·0	3·6	13	—	—	—	1·5	0·2	6·7	18	—	—	0·6	0·3	5·8
*TOTAL—GENERAL INJURIES	182	41	2	7·9	14·8	29·8	66	16	2	—	7·5	3·0	16·7	248	57	2	7·8	17·8	26·3
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds..	102	—	1	4·4	3·2	11·4	27	1	—	—	3·1	0·6	7·6	129	1	1	4·0	3·7	10·6
Gunshot wounds.. ..	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	—	—
Burns and scalds ..	5	—	—	0·2	0·1	7·0	3	—	1	—	0·3	0·5	61·3	8	—	—	0·3	0·6	27·4
Fracture of skull ..	26	9	3	1·1	2·3	32·0	9	7	2	—	1·0	0·8	32·3	35	16	3	1·1	3·1	32·1
Concussion of brain ..	167	2	—	7·2	9·9	21·8	26	—	2	—	2·9	1·5	20·7	193	2	—	6·1	11·4	21·6
Other fractures	28	—	—	1·2	1·4	17·8	10	—	1	—	1·1	0·5	20·0	38	—	—	1·2	1·9	18·3
Other injuries	20	—	—	0·9	0·5	9·3	8	—	—	—	0·9	0·2	8·9	28	—	—	0·9	0·7	9·1
TOTAL—HEAD AND NECK	348	11	4	15·1	17·4	18·3	84	9	6	—	9·5	4·1	17·7	432	20	4	13·6	21·4	18·2

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(ii) Trunk:																			
Contusions and wounds..	54	1	—	2·3	1·7	11·4	22	—	—	—	2·5	0·5	8·2	76	1	—	2·4	2·2	10·5
Gunshot wounds.. ..	—	—	—	—	—	—	2	1	1	—	0·2	0·3	54·0	2	1	—	0·1	0·3	54·0
Fractures	15	1	—	0·7	1·3	31·3	11	1	3	1	1·2	2·0	65·6	26	2	1	0·8	3·3	45·8
Other injuries	22	—	—	1·0	0·6	9·3	12	—	—	—	1·4	0·2	5·5	34	—	—	1·1	0·7	8·0
TOTAL—TRUNK	91	2	—	3·9	3·5	14·2	47	2	4	1	5·3	2·9	22·9	138	4	1	4·3	6·5	17·1
(iii) Upper Extremity:																			
Contusions and wounds..	101	—	—	4·4	3·9	14·3	32	—	—	—	3·6	1·7	19·7	133	—	—	4·2	5·7	15·6
Gunshot wounds.. ..	—	—	—	—	—	—	2	—	—	—	0·2	0·1	26·0	2	—	—	0·1	0·1	26·0
Burns and scalds ..	8	—	—	0·3	0·3	12·8	5	—	—	—	0·6	0·2	14·6	13	—	—	0·4	0·5	13·5
Fractures..	132	—	—	5·7	12·5	34·5	50	—	1	—	5·7	3·4	24·9	182	—	—	5·7	15·9	31·9
Dislocations	19	—	—	0·8	1·5	29·3	12	—	—	—	1·4	0·6	18·5	31	—	—	1·0	2·1	25·1
Sprains	13	—	—	0·6	0·2	5·9	6	—	—	—	0·7	0·1	4·7	19	—	—	0·6	0·3	5·5
Other injuries	13	—	—	0·6	0·5	15·4	4	—	—	—	0·5	0·1	6·2	17	—	—	0·5	0·6	13·2
TOTAL—UPPER EXTREMITY	286	—	—	12·4	19·0	24·3	111	—	1	—	12·6	6·2	20·5	397	—	—	12·5	25·2	23·2
(iv) Total—Hand and Wrist	115	—	—	5·0	6·1	19·4	48	—	—	—	5·4	2·1	15·7	163	—	—	5·1	8·2	18·3
(v) Total—Rest of Limb	171	—	—	7·4	12·9	27·5	63	—	1	—	7·1	4·1	24·1	234	—	—	7·3	17·0	26·6
(vi) Lower Extremity:																			
Contusions and wounds..	214	—	2	9·3	7·6	13·1	101	—	—	—	11·4	2·3	8·4	315	—	2	9·9	10·0	11·6
Gunshot wounds.. ..	—	—	—	—	—	—	1	—	—	—	0·1	0·2	83·0	1	—	—	0·0	0·2	83·0
Burns and scalds ..	14	—	—	0·6	0·8	20·4	8	—	—	—	0·9	0·3	11·8	22	—	—	0·7	1·0	17·2
Fractures..	140	—	5	6·1	26·0	67·9	35	—	4	—	4·0	5·1	52·9	175	—	5	5·5	31·0	64·9
Dislocations	3	—	—	0·1	0·2	19·7	—	—	—	—	—	—	—	3	—	—	0·1	0·2	19·7
Sprains	335	—	—	14·5	13·4	14·6	121	—	—	—	13·7	3·4	10·3	456	—	—	14·3	16·8	13·5
Other injuries	248	—	—	10·8	9·6	14·1	125	—	—	—	14·2	5·0	14·7	373	—	—	11·7	14·6	14·3
TOTAL—LOWER EXTREMITY	954	—	7	41·4	57·5	22·0	391	—	4	—	44·3	16·3	15·2	1,345	—	7	42·2	73·8	20·1

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1932—*continued.*

Disease.	Home. Average strength, 23,053.						Abroad. Average strength, 8,824.							Total Force. Average strength, 31,877.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) TOTAL—FOOT AND ANKLE	372	—	—	16·1	11·7	11·5	148	—	—	—	16·8	4·0	10·0	520	—	—	16·3	15·7	11·1
(viii) TOTAL—KNEE ..	306	—	—	13·3	15·9	19·0	136	—	—	—	15·4	5·5	14·8	442	—	—	13·9	21·3	17·7
(ix) TOTAL—REST OF LIMB..	276	—	7	12·0	29·9	39·7	107	—	4	—	12·1	6·8	23·1	383	—	7	12·0	36·7	35·1
*TOTAL—ALL LOCAL INJURIES	1,679	13	11	72·8	97·3	21·2	633	11	15	1	71·7	29·5	17·1	2,312	24	12	72·5	126·8	20·1
*TOTAL—ALL INJURIES ..	1,861	54	13	80·7	112·1	22·1	699	27	17	1	79·2	32·5	17·0	2,560	81	14	80·3	144·6	20·7
*TOTAL—ALL DISEASES ..	6,313	26	171	273·8	295·1	17·1	3,837	18	102	33	434·8	178·9	17·1	10,150	34	204	318·4	474·0	17·1
*TOTAL—ALL DISABILITIES	8,174	80	184	354·6	407·2	18·2	4,536	35	119	34	514·1	211·5	17·1	12,710	115	218	398·7	618·7	17·8

* Analysed in further detail in table VII.

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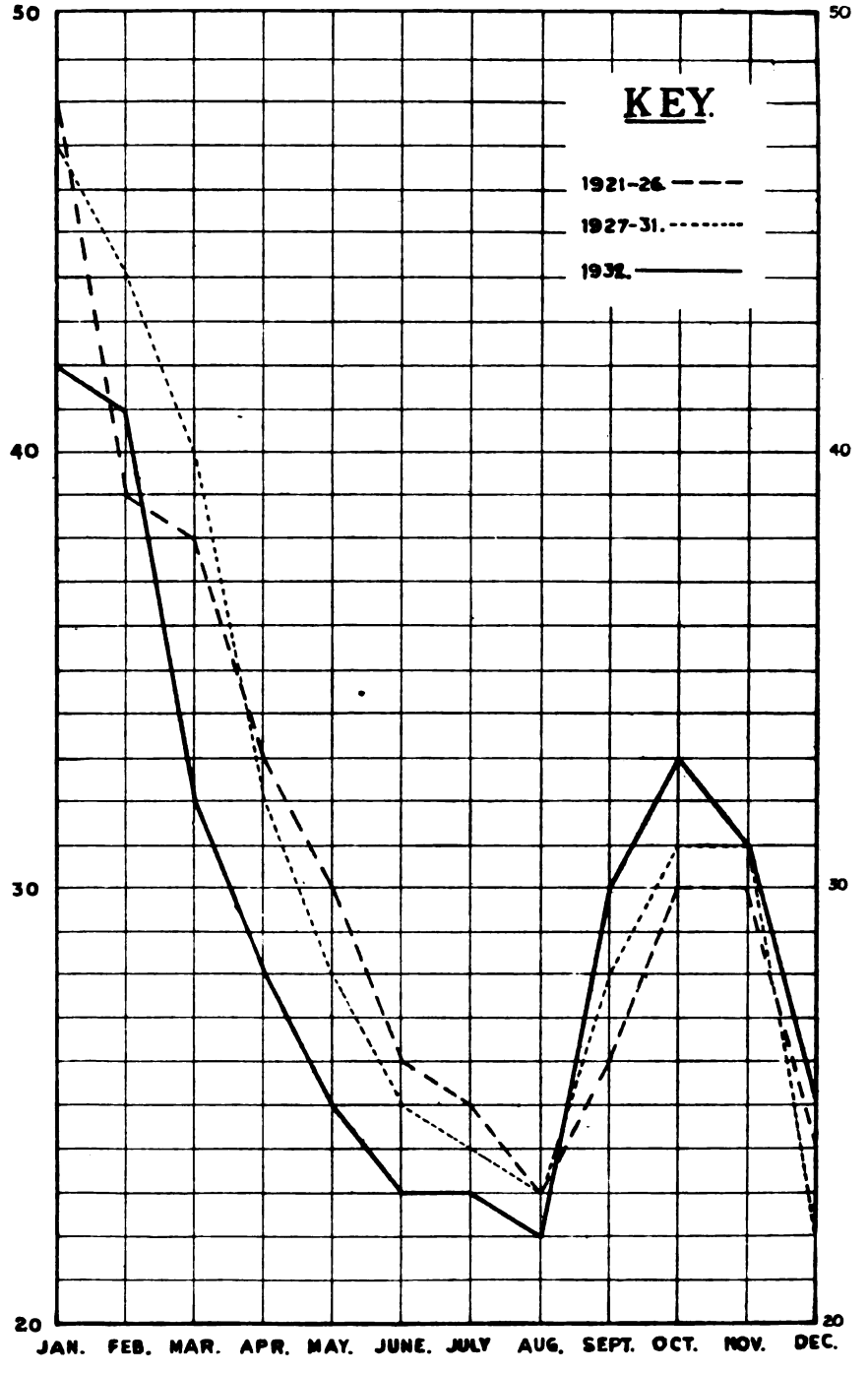
To face page 41.

CHART 1. SICKNESS AT HOME,—1932.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1932

General

39. (i) The incidence of total sickness for the force at home, excluding the Fleet Air Arm, was 537·1 per 1,000 of strength compared with 582·6 in 1931 and average incidences over the two preceding periods of 569·8 and 800·9 per 1,000. Excluding cases of not more than 48 hours' duration, which are not admitted to either hospitals or sick quarters for treatment, the sickness incidence for 1932 was 355·3, compared with 395·4 in 1931, and average incidences of 376·5 and 374·1 per 1,000 during the two preceding periods. The number of sick daily, including cases of less than 48 hours' duration, was 18·6 per 1,000 in 1932, compared with 20·0 in 1931, and average incidences of 20·8 and 20·3 per 1,000 over the two preceding periods. Excluding cases not admitted to hospitals and sick quarters, the constantly sick figure was 17·8 in 1932, compared with 19·1 in 1931 and average rates of 20·0 and 18·6 per 1,000 during the two preceding periods. The average number of days' sickness per head in 1932 at 6·8, including 48 hours' cases, and 6·5, excluding that type of case, was practically the same comparing 1932, 1931 and the two preceding periods. Excluding cases of less than 48 hours' duration, the average duration of each case in days was 18·3 in 1932 compared with 17·8 in 1931 and average rates of 19·4 and 18·1 days during the two preceding periods. Including cases of less than 48 hours' duration, the average duration of each case was 12·6 days in 1932, the same figure as in 1931 and compares with averages of 13·4 and 9·2 days over the two preceding periods.

(ii) The decrease in the sickness incidence in 1932 from 1931 is mainly due to a fall in the incidence of diseases caused by infection from 177·0 in 1931 to 139·5 per 1,000 in 1932. The actual diseases which accounted for this decrease were, firstly, influenza, the incidence of which fell to 32·2 in 1932 from 48·2 per 1,000 in 1931; and, secondly, upper air passage infections with a decreased incidence to 60·7 in 1932 from 75·9 per 1,000 in 1931. These two groups of disease account for 31·2 per 1,000 decrease in the sickness incidence. It has to be noted that the incidence rate of "contacts and carriers" fell to 1·6 in 1932 compared to 5·4 per 1,000 in 1931, but the latter year was an abnormal year in respect of this group of disease. Other incidences worthy of note were those of gonorrhoea and pulmonary tuberculosis, the former falling to 5·9 in 1932 from 8·4 per 1,000 in 1931 and that of the latter becoming more than double at 1·3 in 1932 from 0·7 per 1,000 in 1931.

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(iii) The death rate fell from 4·3 in 1931 to 3·2 in 1932 and compares with average incidences of 3·6 and 3·2 during the two preceding periods. The final invaliding incidence also fell to 8·2 compared with 8·9 in 1931 and averages of 8·0 and 12·1 per 1,000 of strength for the two preceding periods.

40. Table XIII, page 45, analyses for 1932 by age groups of airmen, total airmen, officers and cadets, and the total strength at home, certain diseases which the chief nosological table over a number of years has demonstrated to have been responsible for the bulk of the medical non-effectiveness. Table XIII also permits of a more detailed analysis of the incidence of disease at home in the age groups given in Table V, page 22. In the age groups for airmen, disease incidence is greatest in the apprentices group, *i.e.*, under 18 years of age. Among airmen, the incidence of injury reaches a peak in the years 20 to 23. This has been the experience of previous years. Disease and injury incidences in the officers and cadets group are higher than the incidences in the airmen, all ages group. Among airmen it will be noted that as in 1931 the youngest group, *i.e.*, the apprentices group, shows the highest incidence for upper air passage infections and digestive diseases but the lowest incidence in venereal diseases. As in 1931, the high influenzal incidence among officers and cadets is noted. The incidence of venereal diseases among airmen is highest in the age group 24 and 25.

41. Table XIV, page 46, analyses the distribution of the same diseases as in table XIII by the larger stations which have maintained an average strength of approximately 500 or over during the year. The stations are the same in 1932 as those analysed in 1931, except that the Fleet Air Arm at home is shown as a separate entity and not included with "all other stations." The table shows that the highest incidence of all disabilities was at Cranwell—567·2 per 1,000. In 1931, this station showed the second highest all-disabilities incidence. Cranwell is followed in the incidence of all-disabilities by Halton (460·1) and Andover (437·5). The station showing the lowest all-disabilities incidence was Uxbridge with 251·6 per 1,000. Andover shows the highest incidence of injuries with 111·7 per 1,000 and Uxbridge—a non-flying station—the lowest incidence at 38·6 per 1,000. Halton, Calshot and Gosport returned the lowest incidences for venereal diseases in that order. Other points of note are the high influenzal incidence—74·7 at Felixstowe and the low influenzal incidence at Henlow—9·0 and at Manston—9·7 per 1,000, and also the markedly high venereal disease incidences of 22·9 and 16·6 per 1,000 among the Fleet Air Arm and at Felixstowe respectively. It is also worthy of note that as in 1931 no respiratory diseases occurred at Grantham.

42. Chart 1, facing page 41, shows graphically the monthly case incidence (all diseases and injuries) per 1,000 of strength at home for 1932 and the two preceding periods. The higher

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incidences in the winter compared with the summer are noticeable. The lower incidences in August and December relative to the following and preceding months correspond with the periods and influence of summer and Christmas leave respectively.

Notes on Diseases

43. *Influenza.*—The incidence fell from 48·2 in 1931 to 32·2 per 1,000 in 1932 but was higher than the incidence of 10·6 in 1930. The number of sick daily was 17·4 compared with 22·6 in 1931. The average duration per case in days was 8·6 compared with 7·3 days in 1931.

44. *Upper air passage infections.*—The incidence of this group of diseases fell from 75·9 in 1931 to 60·7 in 1932, and the chief factor in the decrease was the lowered incidence of pharyngitis and nasopharyngitis which decreased from 43·5 in 1931 to 32·3 per 1,000 in 1932. There was only a slight decrease in the incidence of tonsillitis from 27·1 in 1931 to 25·4 per 1,000 in 1932.

45. *Acute rheumatism.*—Thirty-three cases out of 42 for the whole force occurred at home in 1932, compared with 48, 70 and 73 in 1931, 1930 and 1929 respectively. The 33 cases comprised 2 officers, 16 airmen and 15 apprentices—9 at Halton and 3 each at Cranwell and Ruislip. There were no deaths. One case—an aircraft apprentice at Halton, who was remaining under treatment at the end of 1931, was returned to duty after 25 days' treatment in 1932. Of the 18 cases, other than apprentices, 16 were returned to duty and 2 were remaining under treatment at the end of 1932.

Six aircraft apprentices of the 9 cases occurring at Halton were invalided from the service and all apprentices at Cranwell and Ruislip were returned to duty. Of the 15 cases occurring among apprentices, 4 gave a previous history of rheumatism, 5 had sufferred from upper air passage infections of some kind and 2 gave a history of "growing pains" in childhood. In seven cases there was found on admission to hospital definite cardiac involvement, while in the 9 cases returned to duty the heart was apparently functioning normally.

46. *Diseases of the heart.*—Thirty-one cases of diseases of the heart were reported of which 19 were considered to be "disordered action," 8 were disease of the myo- and endocardium, and 4 were valvular diseases. The corresponding figures in 1931 were 45, 30, 9 and 6 respectively, and the incidence of diseases of the heart in 1932 was 1·3 compared with 1·9 per 1,000 in 1931. Thirteen were invalided from the service and there were 2 deaths.

47. *Tonsils.*—The number of cases of acute tonsillitis was 586, an incidence of 25·4 in 1932, compared with 636 cases and an incidence of 27·1 per 1,000 in 1931. The incidence of hypertrophy of tonsils decreased in 1932 to 8·8 (204 cases) from 10·0 (235 cases) per 1,000 in 1931.

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48. *Otitis media.*—The incidence of acute cases was practically the same at 1·3 in 1932 as in 1931 at 1·5 per 1,000, and that of chronic cases was 1·3 in 1932 compared with 1·1 per 1,000 in 1931. There were 11 finally invalided out of the 30 chronic cases occurring at home.

49. *Venereal disease.*—The incidence of all types of venereal disease has fallen comparing 1932 with 1931, that of gonorrhoea from 8·4 to 5·9, soft chancre from 0·2 to 0·1 and syphilis from 1·8 to 1·3 per 1,000.

50. *Diseases of the skin.*—There was a decrease in the incidence of scabies to 2·6 (59 cases) in 1932 from 3·2 (74 cases) per 1,000 in 1931. Impetigo also recorded a fall in incidence from 7·3 (171 cases) in 1931 to 6·1 (141 cases) per 1,000 in 1932. Tinea cruris shows an incidence for home of 5·3 (122 cases) per 1,000 in 1932, compared with 5·0 (118 cases) in 1931, 5·3 (124 cases) in 1930 and 1·7 (39 cases) in 1929. The majority of the 122 cases occurred at Cranwell where cases were reported practically throughout the year, despite all attempts to limit the incidence.

51. *Malaria.*—No cases of primary malaria occurred at home. There were 14 recurrent cases—an incidence of 0·6 in 1932 compared with 47 recurrent cases and an incidence of 2·0 per 1,000 in 1931. As remarked in the report for 1931, any marked variation from year to year in the incidence of primary malaria abroad is reflected in a corresponding variation in the incidence of recurrent cases at home. There were 202, 265 and 410 cases of primary malaria abroad in 1931, 1930 and 1929 respectively.

52. *Heat hyperpyrexia.*—One case, an officer, was diagnosed at home as sunstroke. He was exposed to the direct rays of the sun on a very hot day in June, and was admitted with hyperpyrexia, severe supra-orbital headache, followed by severe vomiting. He recovered and in due course was returned to full duty.

53. *Psychoneurosis.*—There were 38 cases notified in 1932, an incidence of 1·6 per 1,000, compared with 41 cases and an incidence of 1·7 in 1931. Nineteen were invalided from the service in 1932 compared with 26 in 1931.

54. *Injury.*—The incidence of injury at-home in 1932 was 80·7, compared with 73·0, 71·9 and 72·9 per 1,000 in 1931, 1930 and 1929 respectively. The incidence shows no great variation from year to year.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	1,344	47·6	119·0	0·7	12·6	85·6	226·9	492·6	61·0	553·6
18 and 19 ..	3,057	29·8	71·0	1·0	9·5	47·4	166·2	324·8	88·3	413·1
20 and 21 ..	3,632	28·6	73·5	6·6	10·5	33·9	138·2	291·3	104·3	395·6
22 and 23 ..	2,721	30·1	75·7	12·9	9·2	40·1	132·7	300·6	100·0	400·6
24 and 25 ..	2,316	25·0	45·8	16·8	11·2	37·1	92·8	228·8	79·9	308·7
26 and 27 ..	2,010	22·9	44·8	5·0	8·0	32·3	90·5	203·5	78·6	282·1
28 and 29 ..	1,399	30·0	43·6	10·0	10·7	30·0	98·6	223·0	62·2	285·2
30 to 34 ..	2,439	25·4	34·9	9·0	11·5	32·8	71·8	185·3	43·1	228·4
35 to 39 ..	1,029	31·1	35·0	2·9	6·8	34·0	81·6	191·4	32·1	223·5
40 and over ..	555	28·8	36·0	7·2	14·4	30·6	88·3	205·4	36·0	241·4
Airmen, all ages	20,502	29·1	60·9	7·6	10·2	39·8	122·9	270·5	77·6	348·1
Officers and cadets, all ages	2,551	57·2	59·6	5·5	12·9	43·1	122·7	301·1	105·8	406·9
All ranks at Home, 1932..	23,053	32·2	60·7	7·3	10·5	40·2	122·8	273·8	80·7	354·6
All ranks at Home, 1931..	*23,492*	*48·2*	*75·9*	*10·4*	*11·9*	*44·3*	*132·3*	*322·9*	*73·0*	*395·9*
All ranks at Home, 1930..	*23,191*	*10·6*	*63·6*	*12·7*	*10·7*	*39·9*	*139·3*	*276·8*	*71·9*	*348·7*

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TABLE XIV.—SICKNESS AT PRINCIPAL STATIONS AT HOME.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	528	24·6	72·0	5·7	18·9	58·7	145·8	325·8	111·7	437·5
Calshot	656	19·8	67·1	3·0	4·6	22·9	85·4	202·7	100·6	303·3
Cranwell ..	1,740	63·8	110·9	4·6	8·0	47·7	228·7	463·8	103·4	567·2
Digby	494	58·7	58·7	8·1	10·1	42·5	125·5	303·6	74·9	378·5
Felixstowe ..	482	74·7	41·5	16·6	10·4	29·0	147·3	319·5	85·1	404·6
Gosport ..	578	55·4	65·7	3·5	13·8	41·5	98·6	278·5	53·6	332·1
Grantham ..	493	58·8	46·7	6·1	—	32·5	91·3	235·3	69·0	304·3
Halton	2,810	26·7	77·2	2·8	11·0	82·9	190·0	390·7	69·4	460·1
Henlow	1,667	9·0	85·8	8·4	5·4	33·0	106·2	247·7	76·8	324·5
Manston ..	828	9·7	137·7	6·0	12·1	41·1	147·3	353·9	80·9	434·8
Uxbridge ..	1,399	35·0	27·9	6·4	9·3	24·3	110·1	213·0	38·6	251·6
Fleet Air Arm at home	525	15·2	74·3	22·9	19·0	19·0	78·1	228·6	93·3	321·9
All other stations	10,853	29·9	42·7	8·4	11·4	32·9	95·6	220·9	84·8	305·7
Total 1932 ..	23,053	32·2	60·7	7·3	10·5	40·2	122·8	273·8	80·7	354·6
Total 1931 ..	*23,492*	*48·2*	*75·9*	*10·4*	*11·9*	*44·3*	*132·3*	*322·9*	*73·0*	*395·9*
Total 1930 ..	*23,191*	*10·6*	*63·6*	*12·7*	*10·7*	*39·9*	*139·3*	*276·8*	*71·9*	*348·7*

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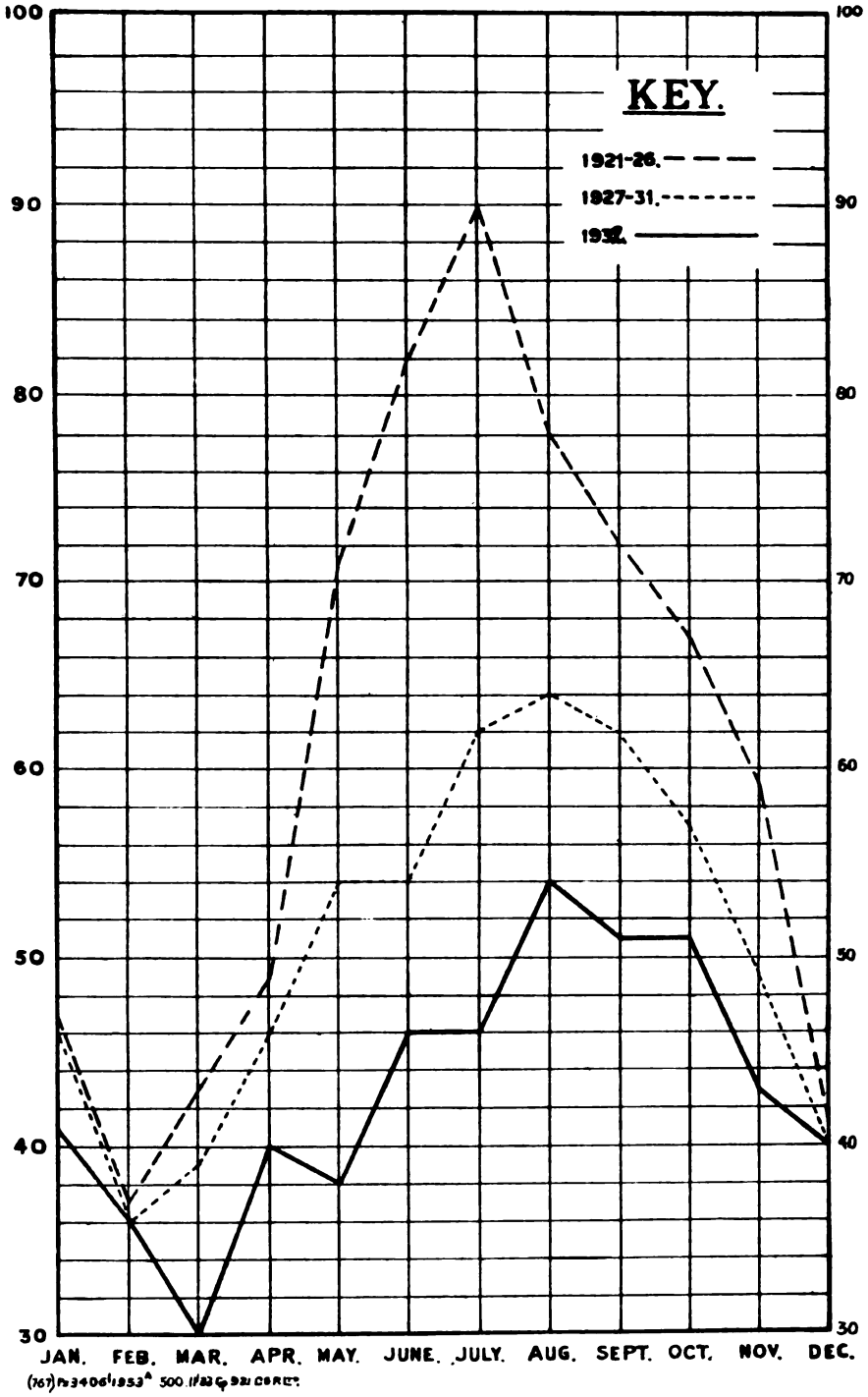
CHART 2. SICKNESS ABROAD.—1932.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1000 OF STRENGTH.



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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1932

General

55. The incidence of total sickness abroad, excluding the Fleet Air Arm, is analysed in table I, page viii, by geographical areas, and compares 1932 with the average incidences of the two preceding periods. Figures for the Far East stations are shown as a footnote to table I. The average strength abroad, excluding the Fleet Air Arm, during 1932, was 8,452, and the total number of cases of sickness 7,494, representing an incidence of 886·7 per 1,000, compared with 941·8 in 1931, and average incidences of 1,079·6 and 1,606·4 per 1,000 in the two preceding periods. Excluding cases which were not admitted to hospitals and sick quarters, the incidence was 517·3 per 1,000 in 1932, compared with 526·6 in 1931, and average incidences of 613·3 and 731·3 per 1,000 during the two preceding periods. It is worthy of note that, comparing 1932 with 1931, there were decreases in the incidences per 1,000 of the following diseases and group of diseases—enteric group 3·0 to 0·9, influenza 21·9 to 13·3, malaria 37·4 to 32·1, venereal diseases 25·8 to 21·6, but pulmonary tuberculosis has increased from 0·7 to 1·0 per 1,000 of strength.

56. Excluding cases of less than 48 hours' duration, the number of sick daily rose slightly to 23·8 per 1,000 in 1932 from 23·0 in 1931, and compares with averages of 28·5 and 36·4 for the two preceding periods. If cases of less than 48 hours' duration are included, the constantly sick figure for 1932 was 25·4, compared with 24·9 in 1931 and average incidences of 30·4 and 39·7 per 1,000 over the two preceding periods.

57. Excluding cases not admitted to hospitals and sick quarters, the average number of days' sickness per head was 8·7 days compared with 8·4 in 1931, and averages of 10·4 and 13·3 over the two preceding periods, while the average duration of these cases in days was 16·9 days compared with 16·0 days in 1931, and averages of 16·9 and 18·2 days for the two preceding periods.

58. The death incidence fell from 4·4 in 1931 to 4·0 in 1932, and compares with average incidences of 5·1 and 7·3 per 1,000 of strength for the two preceding periods. The invaliding rate to the United Kingdom from abroad was 13·0 in 1932, compared with 12·7 in 1931 and 17·6 and 22·2 per 1,000 over the two preceding periods. The final invaliding incidence, *i.e.*, personnel finally invalided whose disability arose while serving abroad, was 3·7 in 1932, compared with 3·3 in 1931 and average incidences of 3·5 and 5·9 per 1,000 of strength during the two preceding periods.

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59. (i) Table XV, page 52, analyses by age groups of airmen, total airmen, officers and the total force abroad certain diseases which, considering the experience of previous years, have been shown by the chief nosological table to have been the principal causes of medical non-effectiveness abroad. Table XV is comparable with table XIII, page 45, for the force at home with the exception of the diseases, influenza, dysentery, malaria and sandfly fever, and also serves as a means of analysing in detail the incidence of disease abroad in age groups shown in table V, page 22. It will be observed that the incidences of the age group 18 and 19 years have not been calculated as the numbers of this age group serving abroad are so small that the resultant figures would not be of any practical value.

(ii) During 1932, for all ranks abroad, upper air passage infections show the highest disability incidence at 79·6 per 1,000 compared with 81·8 and 76·7 in 1931 and 1930 respectively, closely followed by injuries as a cause of non-effectiveness, with an incidence of 79·2 compared with 76·5 and 82·3 per 1,000 in 1931 and 1930 respectively. In the three years reviewed, dysentery was the least cause of non-effectiveness with incidences of 8·6, 8·6 and 8·8 per 1,000 for 1932, 1931 and 1930 respectively, and malaria occupied a middle place with incidences of 32·1, 37·4 and 57·9 per 1,000 in 1932, 1931 and 1930 respectively. Considering disease alone, upper air passage infections also show the highest incidence in each age group of airmen and in the group of officers. The low incidence of venereal disease in the group of officers—6·3 per 1,000, has to be noted compared with the much higher incidence in all age groups of airmen.

60. Chart 2, facing page 47, shows the monthly incidence of sickness abroad during 1932 compared with the two preceding periods. It will be noted that the highest incidence of sickness in 1932 is reached in the months of August, September and October, with the peak in August; in the period 1927–31 the peak is also reached in August and in the period 1921–26 in July. The chart also shows the great decrease in monthly case incidence in 1932, compared with the two preceding periods.

Notes on Diseases

61. *Dysentery, malaria and sandfly fever.*—(i) Table XVI, page 53, analyses dysentery, malaria and sandfly fever at the principal stations abroad, and also shows the percentage of all diseases attributable to each and their incidence collectively compared with all other diseases. Table XVII, page 54, continues the analysis of dysentery, malaria and sandfly fever to show the actual number of cases at each station, and also differentiates between primary and relapse cases of malaria and the various types of dysentery. In table XVIII, page 55, these numbers are shown monthly by geographical areas, subdivided for malaria

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and dysentery into the number of primary and total cases, and the incidences of the various types of disease are compared with the corresponding averages over the two preceding periods.

(ii) In 1932, these diseases accounted for 27·1 per cent. of all diseases at Hinaidi, 26·5 per cent. at Basrah and Shaibah, 15·9 at Abu Sueir, and 14·2 per cent. at Karachi: in 1931, the corresponding figures were 27·2, 25·9, 12·4 and 14·9 per cent. At Aden in 1932, there was a marked drop in the percentage of these diseases of the total diseases to 2·2 per cent., compared with 13·3 and 14·5 per cent. in 1931 and 1930 respectively. The decreased percentage at Aden was due chiefly to a fall in the number of cases of malaria from 18 in 1931 to 2 in 1932, the respective yearly strengths being 413 and 430. The percentage at Calafrana, Malta, was 12·8—solely due to sandfly fever, compared with 15·4 per cent. in 1931. Singapore is included in table XVI for the first time and shows a percentage of these diseases of the total diseases of 8·0 per cent., solely due to malaria. The high incidence of dysentery—35·9 per 1,000, is noted at Basrah and Shaibah, and also the high incidence of malaria at these stations—71·8 per 1,000, compared with the incidence of this disease at Hinaidi—9·9 per 1,000. The relative absence of sandfly fever at the principal stations in Egypt, Aden, India and Singapore, compared with Iraq and Malta is noted.

(iii) In the total force abroad the incidence of dysentery, malaria and sandfly fever combined fell in 1932 to 87·7 from 96·7 per 1,000 in 1931, and was partly accounted for by a decrease in the incidence of malaria in Iraq from 26·9 in 1931 to 20·6 in 1932 and in India from 97·5 in 1931 to 70·8 in 1932, and partly by a fall in the incidence of sandfly fever in the Mediterranean Littoral from 30·2 in 1931 to 20·5 in 1932. The incidence of sandfly fever in Iraq showed an increase from 110·1 in 1931 to 118·7 per 1,000 in 1932, which follows upon an increase from 86·7 per 1,000 in 1930. There was a fall in the number of cases of primary dysentery in the Mediterranean Littoral and in India, but a rise in Iraq, comparing 1932 and 1931. As regards primary malaria, India recorded the same number of cases, and there was an increase in the Mediterranean Littoral but a decrease in Iraq.

(iv) As in previous years, the figures for 1932 show the bacillary type of dysentery to be much more frequent than the protozoal type in India, while in Iraq the position is the reverse.

(v) In 1932, the malaria peak was reached in India in September, the same month as in 1931, while August provided the largest number of cases of dysentery in this command during 1932. In the Mediterranean Littoral and in Iraq, the sandfly fever peak was reached in September in 1932 compared with July in 1931.

62. *Enteric group.*—Eight cases were notified during 1932 compared with 27, 13 and 47 in 1931, 1930 and 1929 respectively. This diminution in numbers, representing a decrease in incidence

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of 2·1 per 1,000 of strength compared with 1931, is considered very satisfactory, and reflects the high standard of hygiene found in stations abroad, and the value of preventive inoculation. There were no deaths or invalids.

(i) *Typhoid fever.*—Four cases (1 in Iraq and 3 in India) were notified, compared with 2 in Iraq and 4 in India in 1931. Two of the cases in India were officers of the general duties branch and were serving with the same squadron at Quetta. The bacillus typhosus was isolated in all cases. Three of the cases recovered and were returned to duty and one was remaining under treatment at the end of the year. Excluding convalescence, the average duration per case was 74·2 days.

(ii) *Paratyphoid A.*—One case, stationed in Egypt, was reported during 1932 and compares with two cases remaining over from 1930 into 1931. He was definitely diagnosed by the isolation of the B. paratyphosus A. and was returned to duty after 50 days' treatment.

(iii) *Paratyphoid B.*—One case (Transjordan) was notified in 1932 compared with 14 in 1931. The case was diagnosed as a result of positive agglutination tests, and was remaining in hospital at the end of the year after 63 days' treatment.

(iv) *Clinical enteric.*—Two cases (1 in Khartoum and 1 in Mosul, Iraq) were notified under this heading, *i.e.*, clinically one of the enteric fevers but unconfirmed bacteriologically, and compare with seven cases (3 in India, 2 in Egypt and 2 in Iraq) during 1931. No cases were invalided to the United Kingdom in 1932. Excluding convalescence the average duration of the cases was 81·5 days.

63. *Enteritis (acute) and gastro-enteritis (acute).*—The incidence of these cases, which were considered neither clinically nor pathologically to belong to the dysentery or enteric group, rose to 29·5 (260 cases) in 1932 from 27·7 (248 cases) per 1,000 in 1931. There were no deaths or invalids from this cause.

64. *Heat exhaustion, heatstroke and heat hyperpyrexia.*—Eight cases occurred (3 in Iraq, 3 in India, 1 in Aden and 1 in the Fleet Air Arm), compared with 15, 40, 6 and 27 in 1931, 1930, 1929 and 1928 respectively. No deaths occurred and there were no invalidings. In three cases there was a definite history of exposure to the sun while working, and in two cases a history was given of over-exertion and the playing of games under a hot sun.

65. *Influenza.*—The incidence of this disease fell from 21·9 in 1931 to 13·3 per 1,000 in 1932 and compares with 7·3 in 1930 and 7·8 in 1929.

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66. *Upper air passage infections.*—The incidence in 1932 was about the same at 79·6 as in 1931 at 81·8 per 1,000 and compares with incidences of 76·7 and 78·1 per 1,000 in 1930 and 1929 respectively.

67. *Psychoneurosis.*—Twenty cases were notified in 1932 compared with 34, 33 and 35 in 1931, 1930 and 1929 respectively. Of the 20 cases, 8 were invalided to the United Kingdom; 2 were finally invalided compared with 6, 3 and 5 in 1931, 1930 and 1929 respectively.

68. *Otitis media.*—There were 29 acute cases, an incidence of 3·3 in 1932, compared with 46 and an incidence of 5·1 per 1,000 in 1931, while there were four chronic cases—an incidence of 0·5 in 1932 compared with nine cases and an incidence of 1·0 per 1,000 in 1931. One was invalided to the United Kingdom and finally invalided.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.										
		Dysentery.	Malaria.	Sandfly fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—												
18 and 19	37	*	*	*	*	*	*	*	*	*	*	*
20 and 21	873	10·3	24·1	63·0	82·5	21·8	8·0	42·4	214·2	466·2	69·9	536·1
22 and 23	2,130	11·7	23·9	54·9	82·2	24·9	11·7	29·6	200·5	439·4	85·0	524·4
24 and 25	1,981	6·1	40·4	57·0	81·8	27·8	17·7	38·4	191·8	460·9	95·4	556·3
26 and 27	702	4·3	42·7	52·7	81·2	32·8	15·7	42·7	185·2	457·3	84·0	541·3
28 and 29	470	8·5	36·2	40·4	74·5	21·3	36·2	34·0	191·5	442·6	76·6	519·2
30 to 34	1,031	8·7	38·8	30·1	74·7	18·4	15·5	44·6	181·4	412·2	56·3	468·5
35 to 39	463	6·5	15·1	13·0	69·1	13·0	19·4	56·2	149·0	341·3	41·0	382·3
40 and over	180	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages	7,867	8·5	31·8	48·6	79·6	23·5	16·1	39·2	193·3	440·6	77·9	518·5
Officers, all ages	957	9·4	34·5	34·5	79·4	6·3	15·7	48·1	159·9	387·7	89·8	477·5
All ranks, abroad 1932 ..	8,824	8·6	32·1	47·0	79·6	21·6	16·1	40·1	189·7	434·8	79·2	514·1
All ranks, abroad 1931 ..	*8,956*	*8·6*	*37·4*	*50·7*	*81·8*	*25·8*	*15·2*	*38·2*	*197·1*	*454·8*	*76·5*	*531·3*
All ranks, abroad 1930 ..	*8,809*	*8·8*	*57·9*	*52·1*	*76·7*	*25·4*	*14·9*	*45·6*	*196·3*	*477·8*	*82·3*	*560·1*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD. 1932.

Command and station.	Average strength	Number of cases.						Percentage of total number of cases of disease at stations.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Dysentery, malaria and sandfly fever.	All other diseases.	All diseases.
Egypt.															
Aboukir ..	685	—	23	—	23	287	310	—	7·4	—	7·4	92·6	33·6	419·0	452·6
Abu Sueir ..	407	3	13	5	21	111	132	2·3	9·8	3·8	15·9	84·1	51·6	272·7	324·3
Cairo and Heliopolis	593	—	9	7	16	253	269	—	3·3	2·6	5·9	94·1	27·0	426·6	453·6
Aden.															
Aden and Khormaksar	430	1	2	—	3	135	138	0·7	1·5	—	2.2	97·8	7·0	313·9	320·9
Iraq.															
Hinaidi ..	1,417	8	14	175	197	530	727	1·1	1·9	24·1	27·1	72·9	139·0	374·0	513·0
Basrah and Shaibah	390	14	28	24	66	183	249	5·6	11·3	9·6	26.5	73·5	169·2	469·2	638·4
India.															
Karachi ..	552	9	20	4	33	200	233	3·9	8·6	1·7	14·2	85·8	59·8	362·3	422·1
Mediterranean.															
Calafrana ..	347	—	—	19	19	129	148	—	—	12·8	12·8	87·2	54·7	371·8	426·5
Far East															
Singapore ..	343	—	9	—	9	103	112	—	8·0	—	8·0	92·0	26·2	300·3	326·5

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TABLE XVII.—DYSENTERY, MALARIA AND SANDFLY FEVER AT STATIONS ABROAD, 1932.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Sandfly fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aboukir ..	685	—	—	—	—	—	—	—	—	14	23	—
Abu Sueir ..	407	—	—	2	2	1	1	3	3	10	13	5
Aden ..	430	—	—	1	1	—	—	1	1	2	2	—
Amman ..	231	—	—	—	—	2	2	2	2	1	1	9
Cairo and Heliopolis	593	—	—	—	—	—	—	—	—	9	9	7
Calafrana ..	347	—	—	—	—	—	—	—	—	—	—	19
Helouan ..	156	—	—	—	—	—	—	—	—	3	3	5
Ismailia ..	218	—	—	1	1	—	—	1	1	4	4	13
Khartoum ..	191	—	—	—	—	—	—	—	—	19	19	11
Ramleh ..	225	—	—	—	—	—	—	—	—	2	4	8
Various small stations and drafts *en route* ..	412	—	—	1	1	1	1	2	2	2	2	3
Total ..	3,895	—	—	5	5	4	4	9	9	66	80	80
India.												
Ambala ..	158	—	—	4	4	—	—	4	4	17	23	7
Karachi ..	552	1	1	7	7	—	1	8	9	16	20	4
Kohat ..	223	—	—	—	—	—	—	—	—	21	28	9
Lahore ..	160	—	—	1	1	—	—	1	1	6	11	24
Peshawar ..	172	—	—	2	3	—	—	2	3	8	9	33
Quetta ..	311	—	—	10	10	10	10	20	20	21	32	—
Risalpur ..	245	—	—	5	5	—	—	5	5	4	5	4
Various small stations ..	241	—	—	1	1	—	—	1	1	11	18	5
Total ..	2,062	1	1	30	31	10	11	41	43	104	146	86
Iraq.												
Basrah ..	213	—	—	—	—	8	10	8	10	14	19	18
Hinaidi ..	1,417	1	1	6	6	1	1	8	8	11	14	175
Mosul ..	214	1	1	1	1	—	—	2	2	1	1	49
Shaibah ..	177	1	1	—	—	2	3	3	4	8	9	6
Various small stations ..	68	—	—	—	—	—	—	—	—	—	—	—
Total ..	2,089	3	3	7	7	11	14	21	24	34	43	248
Fleet Air Arm abroad ..	372	—	—	—	—	—	—	—	—	1	1	1
Far East.												
Singapore ..	343	—	—	—	—	—	—	—	—	8	9	—
Other stations	63	—	—	—	—	—	—	—	—	4	4	—
TOTAL: All stations abroad	8,824	4	4	42	43	25	29	71	76	217	283	415

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TABLE XVIII.—DYSENTERY, MALARIA AND SANDFLY FEVER ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery						Malaria.						Sandfly fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	1	1	—	—	—	—	3	4	—	1	—	—	—	—	—
February	—	—	1	1	—	—	—	—	2	3	8	8	—	2	—
March	—	—	2	2	—	—	3	3	2	2	2	3	—	—	2
April	—	—	5	5	2	3	3	3	2	8	3	3	—	21	7
May	—	—	5	6	6	6	1	1	—	5	1	2	2	6	21
June	—	—	3	3	5	5	5	7	1	7	—	—	11	9	41
July	2	2	2	2	2	2	1	5	5	8	6	8	15	14	49
August	2	2	15	15	—	1	2	3	16	23	3	4	15	19	50
September ..	2	2	3	3	—	—	14	15	33	36	3	4	22	6	53
October	1	1	3	4	2	2	14	16	26	34	4	6	11	7	21
November	1	1	1	1	3	4	15	16	16	17	2	2	4	1	4
December	—	—	1	1	1	1	5	7	1	2	2	3	—	1	—
1932 Total ..	9	9	41	43	21	24	66	80	104	146	34	43	80	86	248
Case incidence per 1,000 of strength															
1932	2·3	2·3	19·9	20·9	10·1	11·5	16·9	20·5	50·4	70·8	16·3	20·6	20·5	41·7	118·7
1927–31	*4·9*	*5·5*	*13·4*	*15·3*	*9·7*	*10·9*	*22·1*	*40·8*	*78·7*	*169·3*	*28·4*	*51·0*	*36·0*	*53·6*	*108·6*
1921–26	*9·2*	*11·5*	*11·8*	*19·0*	*32·0*	*38·4*	*11·4*	*26·5*	*116·1*	*255·7*	*60·3*	*130·1*	*54·8*	*64·6*	*238·0*

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CHAPTER IV.—SPECIAL DEPARTMENTS

Medicine

69. (i) *General.*—During the year, no epidemics occurred, and except for one case of Mikulicy's disease no exceptional type of disease was recorded. The statistics on medical diseases are dealt with fully in Chapter I, II, and III.

(ii) *Research and investigation* (*a*).—During 1932, research has been carried out on normal blood pressure and the factors affecting it.

(*b*) (1) Research in connection with oxygen supply at great height has been continued. Aspects of this question that have been dealt with include: the use of oxygen in high parachuting, design of supply gear (with particular reference to intermittence and constancy of flow), requirement at extreme height, limit of toleration of height (in diabatic aircraft), relation between rates of oxygen consumption and capacity for work, protection from gradual and therefore insidious oxygen-want and duration and validity of consciousness in progressive oxygen-want.

(2) Definite opinions have been reached as to some of the physiological limitations of flying, and, as these have been published, it is hoped to learn of any criticism that can be directed against them, whether as statements of fact or as deductions drawn therefrom. One of the opinions is that there is an upper limit of height, of the order of 45,000 feet (varying substantially with the individual and the occasion), beyond which no amount of oxygen will suffice to enable man to fly as an active agent without physical protection from the extremely low atmospheric pressure. These opinions do not pretend to be conclusive, but it is believed that none includes gross error, and they will serve as a basis for argument and research.

(3) Assistance and advice on oxygen supply was given in connection with the attempt on the world's record for altitude flying, the 1933 Everest Climbing Expedition, and the flight over Mount Everest.

(*c*) (1) *Special medical examinations on aircraft apprentices.*—These special examinations were carried out on aircraft apprentices at Halton and Cranwell. The object of the examinations is to make physical and temperamental observations of such a nature that it is possible to check abnormal tendencies at an early stage, to note suitable cases for promotion or for flying, and to investigate the possibility of improving upon existing methods of selecting aircraft apprentices for the service and of allotting the trade they are most suited for.

(2) The method adopted is to examine each aircraft apprentice individually for half-an-hour and the whole entry collectively for one hour. In the individual examination, information is

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obtained upon such points as: certain details of early history particularly school life, the type of hobby and games played, and the reasons for joining the service and for the selection of a particular trade. In the collective examination, tests are given for intelligence, mechanical aptitude and character.

(3) Then special tests are given designed to indicate the trade most suitable; an assessment of temperament is made; and a physical index is given by means of which boys may be placed in definite physical categories.

(4) These physical categories are based primarily upon the physiological types of which there are three main divisions (the pyknic, athletic and asthenic), and these are founded upon certain anthropometrical measurements. Each type tends to possess certain specific qualities of temperament and character; and therefore, more information is being obtained than merely subdividing into three types of physique. A further grading is then made subdividing each of these three main divisions into three subdivisions. This depends upon certain special physical tests as well as a routine physical examination. These subdivisions are marked 1, 2 and 3 and indicate (1) fitness for all games; (2) that certain limitations are indicated; (3) that all games should be stopped for a time.

(5) As a result of these individual and collective tests it is possible to grade boys in physical categories as has been indicated; to note cases requiring further information for physical reasons or on account of temperamental difficulties; to suggest the trade most suitable; and to make special recommendations, such as suitability for promotion or for flying.

(6) A total of 150 boys have been examined in this way and data of considerable interest have been obtained which may be grouped under three main headings:—

(i) The foundation has been laid for the establishment of norms for boys of this age as regards body types, physical index, character types, standards of intelligence and mechanical ability grouping. Such information has not previously been available.

(ii) In 44 cases (29 per cent.) it has been possible to make specific practical suggestions under one of the headings noted above, and to provide the Air Officer Commanding with this information.

(iii) In an additional 21 cases (14 per cent.) it has been possible to make special observations, which, although not available for immediate practical application may be useful in the future.

(7) With regard to the mechanical ability tests designed to indicate the trade most suitable, it may be observed that these have been evolved at Halton and are based, as a result of observation, upon the nature of the work actually performed in workshops at Halton and Cranwell.

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(8) Assistance has been given by the Industrial Research Board of the Medical Research Council in connection with certain tests employed in these examinations. Whilst these examinations are at too early a stage to permit of a dogmatic statement as to their possible value, an analysis of the results so far tends to indicate that they may be of value in achieving the objects outlined above. The investigation is being continued.

(iii) *Teaching.*—Routine short courses for newly-joined medical officers and the fortnightly courses for colonial and naval medical officers have been continued during the year.

(iv) *Examinations at the Central Medical Establishment.*—(*a*) During 1932, 600 candidates for commissions in the General Duties Branch, for entry as cadets and for appointment as airman pilots, *i.e.*, for appointments involving flying duties, were examined, of whom 363—61 per cent. of the total examined, were finally accepted, compared with 57 and 63 per cent. in 1931 and 1930 respectively. Two hundred and fourteen were finally and 23 temporarily rejected. These examinations are analysed in table XIX, page 72. It will be noted that the percentage accepted in the three largest classes of candidates—cadets, airman pilots and short service commissions—was practically the same. Table XXI, page 73, analyses the causes of rejection at all examinations carried out at the Central Medical Establishment. Included in this table are the examinations of the candidates shown in table XIX, page 72. As in previous years, defective vision proves the most frequent cause of final rejection—40 per cent. in 1932, compared with 34, 32 and 31 per cent. in 1931, 1930 and 1929 respectively.

(*b*) Table XX, page 72, shows the average results of the physical efficiency tests and measurements of all candidates for flying duties accepted at the Central Medical Establishment and finally entering the service, for the years 1932, 1931, 1930, and for the period 1925-1929.

Surgery

70. (i) *General.*—During 1932, a high standard of surgery continues, both at home and abroad, and opportunity has been taken whenever possible to post medical officers to units where they can be employed in their special capacity.

(ii) *Surgical operations.*—In R.A.F. hospitals at home, 468 major and 1,002 minor operations were carried out during 1932, while in R.A.F. hospitals abroad the figures were 54 major and 133 minor operations. On five occasions at home it was found expedient to perform major operations at sick quarters as a part of emergency treatment. Abroad, in similar circumstances, five major operations were carried out at sick quarters. These figures do not include dental operations.

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(iii) *Anaesthetics* (*a*)—In the hospitals at home and abroad the methods of inducing general anaesthesia were as follows :—

	Home.	*Abroad.*
Ether	—	51
Chloroform	1	—
Chloroform and ether ..	903	48
Alcohol, chloroform and ether	33	—
Ether and oxygen	97	1
Nitrous oxide	130	55
Nitrous oxide, oxygen and ether..	4	—
Ethyl chloride	18	1
Narcotilogne and ether ..	50	—

From the above it will be noted that the administration of chloroform alone was only carried out in one case, while the combination of chloroform and ether was the method most frequently used.

(*b*) During the year, the following general anaesthetics were administered at sick quarters, excluding India. These figures do not include anaesthesia induced to carry out dental operations:—

	Home.	*Abroad.*
Ether	2	6
Chloroform and ether ..	31	9
Nitrous oxide	16	41
Ethyl chloride	4	—

(*c*) During the year, in six cases, percaine was used to induce spinal anaesthesia.

(*d*) In R.A.F. hospitals, the drug most employed for inducing local anaesthesia was percaine, followed by novocaine, cocaine and ethyl chloride.

(iv) *Radiological Departments.*—During 1932, in the radiological departments of R.A.F. hospitals, the following examinations were carried out at home and abroad.

	Home.	*Abroad.*
General	2,982	908
Opaque meals	117	28
Opaque enema	17	1
Cholecystography	21	1
Pyelography (intravenous)	19	6
Chest (Lipiodol)	1	—

These figures do not include radiological examinations carried out at the R.A.F. Dental Centre, Uxbridge.

(v) *Massage and Electro-therapeutic Departments.*—The following figures of treatment carried out in the massage and electro-therapeutic departments of R.A.F. hospitals at home and abroad indicate the wide application of these methods in the treatment of disease and injury.

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	Home.	*Abroad.*
Massage treatments and exercises	16,077	4,277
Electrical treatments (excluding radiant heat).	4,277	3,153
Radiant heat	3,811	294

These figures include both patients in hospitals and out-patients.

(vi) *Ear, Nose and Throat Department attached to R.A.F. Officers' Hospital, Uxbridge.*—This department was opened a few years ago and, although attached to the Officers' Hospital, is intended for the treatment of airmen and families as well as officers. The following report for 1932 gives a good idea of the value of the work carried out by this department :—

(*a*) *Out-patients.*—Nine hundred and twenty out-patients were examined during the year 1932. Of these, 284 were fresh cases and 636 were subsequent attendances for examination and treatment. The out-patients comprised officers, airmen and families, and the monthly examinations are shown as follows :—

	Fresh cases.	*Attendances.*	*Total.*
January	26	73	99
February	23	38	61
March	34	57	91
April	28	40	68
May	19	37	56
June	39	67	106
July	22	47	69
August	30	54	84
September	13	43	56
October	19	66	85
November	11	56	67
December	20	58	78
	284	636	920

(*b*) *Operations.*—The following number of ear, nose and throat operations were performed monthly during the year 1932, at the R.A.F. Officers' Hospital, Uxbridge.

	Officers.	*Airmen and families.*	*Total.*
January	10	10	20
February	7	8	15
March	10	15	25
April	8	12	20
May	8	13	21

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	Officers.	*Airmen and families.*	*Total.*
June	9	14	23
July	8	12	20
August	11	15	26
September	8	15	23
October	7	20	27
November	8	10	18
December	6	12	18
	100	156	256

Below is shown the detail of the operations performed during the year :—

Description of operation.	*Officers.*	*Airmen and families.*	*Total.*
Enucleation of tonsils and adenoids	30	35	65
Submucous resection of septum	13	35	48
Proof puncture and lavage of maxillary sinus ..	28	33	61
Exploration of sphenoidal sinuses	—	2	2
Exploration of ethmoidal sinuses	—	3	3
Nasal polypi	3	7	10
Intra-nasal antrostomy	20	18	38
Cautery of turbinates ..	—	2	2
Paracentesis of tympanic membrane	—	2	2
Fracture of nasal bones ..	—	2	2
Coldwell-Luc radical antrum operation ..	—	2	2
Dental cyst	—	1	1
Intra-nasal operation on ethmoid cells	2	3	5
Turbinotomy	2	3	5
Abscess and haematoma of septum	—	1	1
Furunculosis opened ..	—	3	3
Aural polypi	—	2	2
Schwartze operation on mastoid	1	1	2
Radical operation on mastoid	1	1	2
	100	156	256

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(*c*) *Anaesthetics.*—The anaesthetics administered and the method of administration to induce local anaesthesia was as follows :—

Chloroform and ether	..	78
Local anaesthesia ..	..	178

The local anaesthetic used was 2 per cent. Percaine surface, and 0·5 per cent. for infiltration purposes. To this was added 1/1,000 Adrenalin Hydrochloride.

Premedication in most cases was obtained by giving nembutal gr. 1½ the night before the operation, and repeating this dose again one hour before the operation, in conjunction with gr. 1/6th morphia, and atropin gr. 1/100. No untoward symptoms were encountered with the use of percaine, except in one case, that of an officer of a highly nervous temperament who developed spasmodic twitchings of the fingers and the muscles of the face. These symptoms passed off quite quickly. Compared with cocaine, percaine has proved a valuable local anaesthetic devoid of danger.

Hygiene

71. (i) *General remarks.*—In 1932, there has been no change in the accommodation of personnel, ventilation and heating of buildings, water supplies, rations and feeding of personnel, and recreational facilities to merit publication in this report.

(ii) *Conservancy.*—(*a*) Aden.—Owing to a proposal by the Aden Settlement Authorities to increase their charges for sanitary services, a scheme to effect economy by taking over entirely the sanitation has been outlined.

(*b*) Halton.—A complaint having been received from the Thames Conservancy Board that the sewage effluent from Halton Camp was of an injurious character, the matter was thoroughly investigated. The effluent appeared to be satisfactory and to be causing no nuisance, and analysis showed that it conformed to the requirements of the Sewage Commissioners. Subsequent investigation showed that the osier beds were not acting as an efficient filter, although the final degree of contamination was well within the requirements of the Royal Commission on Sewage Disposal.

Steps to improve the action of the irrigation land have been initiated.

(iii) *Temperature of quarters.*—At the R.A.F. General Hospital, Hinaidi, two two-bedded wards were each equipped with two special cooling fans. A constant temperature of 75 to 82 degrees was maintained. Patients in those wards were more comfortable and made quicker recoveries than those treated in other wards. A two-roomed building was allocated to cases suffering from effects of heat. One room was equipped as a treatment room

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and the other as a recovery room. It was found possible to maintain the latter at 78 degrees and it is anticipated that this will be further reduced when a double roof is constructed.

(iv) *Investigation.*—(*a*) *Thompson's Portable Box Disinfector.*—This disinfector was tested at Halton as regards its suitability for use by detached air force units on active service. It proved to be a very efficient disinfector, light in weight, and capable of easy transportation by air. Certain minor alterations and additions were made to render the disinfector more effective if used by air force units.

(*b*) *Lighting of buildings.*—The question of the lighting of barrack rooms, offices and workshops has been the subject of special investigation in Iraq, and it has been established that it is frequently inadequate. Steps are being taken to improve the lighting.

(*c*) *Prevention of upper air passage infections.*—As a result of the investigations and recommendations of the Inter-services Committee on tonsillitis and allied diseases, steps have been taken at Halton to reduce the incidence of these diseases amongst the aircraft apprentices in that Command.

(v) *Notes on special diseases in relation to hygiene.*—(*a*) *Smallpox.*—In November two cases of smallpox in a native camp immediately outside Hinaidi Cantonment, Iraq, were notified. Four subsequent cases occurred in the Cantonment Labour Camp, and one airman contracted the disease.

(*b*) *Diphtheria.*—(1) A small outbreak of diphtheria took place at Abu-Sueir among children of R.A.F. personnel who had recently come from the United Kingdom. In spite of prompt action, two deaths occurred. Two carriers were considered to be the cause of the outbreak.

(2) Another small outbreak of diphtheria took place in November at Mosul. Six cases occurred. Two carriers were detected. The necessary precautions were observed and the further spread of the disease was prevented.

(*c*) *Scarlet Fever.*—Several sporadic cases of scarlet fever occurred among air force personnel in Palestine between January and June, and in June an outbreak occurred at Ramleh. The cases were almost entirely of a mild type. All made an uninterrupted and uneventful recovery.

(*d*) *Schistosomiasis.*—Thirty-five cases of schistosomiasis were diagnosed at Sheikh Othman Mission Hospital, and the R.A.F. Laboratory, Aden. This is apparently the first occasion on which the disease has been discovered in this locality. All the cases came from a well-defined geographical area 100 to 200 miles N.W. of Aden. No case was reported locally, or between Aden and the hills, and no case occurred amongst the personnel of the Levies or armoured cars, although these operate from time to time over this terrain.

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(*e*) *Tinea Cruris.*—The number of admissions at Cranwell for this condition remains approximately the same as in 1931. Active measures are pursued to combat the spread of the disease.

(vi) *Teaching.*—(*a*) At the R.A.F. Pathological Laboratory, Halton, courses of instruction in general sanitation and hygiene were given to 960 aircraft apprentices and airmen.

(*b*) This year marked a definite advancement in the teaching of service hygiene when the R.A.F. Pathological Laboratory, Halton, was officially recognised by the Royal College of Physicians of London and Surgeons of England as a teaching school for the first part of their Diploma in Public Health. Furthermore, the members of the public health class of the London School of Hygiene and Tropical Medicine (London University) visited Halton, by special request of their Director and Dean, who considers that the local facilities for instruction in hygiene are so good that he is desirous that the class should make the visit an annual one.

(*c*) *Hygiene section.—R.A.F. Depôt.*—(1) The work carried out by this section has been on similar lines to previous years. Owing to the limited space available, only one new model has been erected during 1932. The total number of full size and miniature models is now 102.

(2) During 1932, 125 hospital and dental orderlies under training—recruits to the medical and dental branches—attended a preliminary course of instruction on hygiene and sanitation prior to posting to the Medical Training Depôt, Halton. This course extends over six weeks. Eight trained medical orderlies underwent a course of instruction of three months duration on hygiene and sanitation and were successful in passing the examination to remuster to the trade of sanitary assistant. Twenty-six aircrafthands were given courses of lectures and demonstrations in field and camp sanitation and hygiene to enable them efficiently to carry out sanitary duties at training camps, and 90 short service commissioned officers, undergoing their preliminary training at the depôt on first joining the service, received instruction in the simple methods of camp sanitation, general hygiene and the preservation of health in the tropics. Lectures and instruction on hygiene were given at intervals during the year to airmen recruits arriving at the depôt. In all 90 officers and 223 airmen received official instruction at the section during 1932, and, in addition, officers about to sit for the promotion examination attended individually and in parties for lectures on and demonstrations of the museum models.

(vii) *Summer Training Camp.—Iraq.*—Ser Amadia was again selected. A party of approximately three officers and forty airmen was sent up each week and a similar draft left each week after a three weeks stay. The health of the drafts was good and the benefit to personnel was indubitable.

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Pathology

72. (i) *Laboratory work.*—The total number of routine specimens examined in the R.A.F. Pathological and Clinical Laboratories in the United Kingdom and abroad, during 1932, amounted to 48,759, a figure somewhat higher than that of last year (47,096). A synopsis of the work done in each laboratory is shown in table XXVIII, page 81. The routine work of all laboratories has maintained a high standard.

(ii) *Teaching.*—At the R.A.F. Pathological Laboratory, Halton, two officers received advanced instruction in pathology and bacteriology. Twenty newly-joined medical officers passed through a course of pathology, hygiene and tropical medicine. Two airmen received a year's special training in general laboratory work and qualified as laboratory assistants.

(iii) *Research and investigation.—Tonsillitis and allied diseases.*—Research in connection with etiological factors relative to the incidence of tonsillitis and droplet infections amongst aircraft apprentices at Halton has been carried out during the past five years, and in 1932 the general findings were collated and submitted as Part III of the Report of the Combined Services Sub-Committee on the prevalence of tonsillitis and allied conditions. Observations were made on 2,740 boys living under similar conditions and the following conclusions were drawn :—

(*a*) Boys who joined the service with a previous history of tonsillitis were twice as likely to suffer from that disease whilst under training as those who had no such history.

(*b*) Pre-service tonsillitis was more prevalent in recruits from South-east England than from any other area in England and Wales.

(*c*) No one ethnological type was more susceptible to tonsillitis than another.

(*d*) Enlarged as compared with normal tonsils predisposed to tonsillitis in the ratio of 3 to 2.

(*e*) The incidence of tonsillitis, sore-throat and naso-pharyngitis amongst tonsillectomised boys was a third of that in non-tonsillectomised boys.

(*f*) There was no evidence that gingivitis predisposed to tonsillitis or to enlargement of the tonsils. Pyorrhoea possibly had some connection with tonsillitis, but further investigation is necessary regarding the relation of dental sepsis to tonsillitis.

(*g*) There was no evidence that tonsillitis and other droplet infections were spread by means of the bucket system of washing personal feeding utensils.

(*h*) Bacteriological findings indicated that boys living even under ideal barrack conditions, with central heating and a space of 3 feet between adjacent beds, were

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infected with mouth-borne organisms from their nearest neighbours, and that this infection was greatest during or immediately after inclement weather when much time was spent in barracks.

(*i*) This degree of cross infection with micro-organisms usually did not produce actual disease, but rather gradual immunity to droplet infections; this was suggested by the gradual fall in their incidence after twelve to eighteen months residence in barracks.

(*j*) The incidence of streptococcus haemolyticus in the throats of boys with tonsillitis was twice that in normal healthy individuals. Furthermore, there was a certain parallelism throughout the year between the fluctuations in the carrier rates for streptococcus haemolyticus in healthy boys and the incidence of tonsillitis.

(*k*) The Dick test indicated that acute tonsillitis and sore throat produced little, if any, immunity to the erythrogenic toxin of streptococcus haemolyticus scarlatinae.

(*l*) Scarlet fever appeared to render boys more liable to further throat infections.

Physical Efficiency of Serving Officers, Cadets and Airman Pilots of the Royal Air Force

73. (i) Three thousand eight hundred and eighty-one officers, cadets and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches during 1932. Of 2,230 officers of the general duties branch liable for flying duty, 2,066 (93 per cent.) were found to be fit to act as pilots of aircraft, and the results of their responses and those of cadets and airman pilots to the standard of physical efficiency tests are analysed in table XXIII, page 75, and table XXIV, page 76. Table XXII, page 74, compares the percentage of officers of the general duties branch liable for flying duties found fit for such duty for the years 1922 to 1932 inclusive. It will be observed that the percentage of this class of officers found fit varies very little from year to year, and the high percentage of 93 per cent. for the year 1932 is considered very satisfactory. Table XXV, page 78, analyses at home and abroad the reasons of unfitness of the 164 officers of the general duties branch liable for flying duties and found unfit for these duties. It will be observed that the majority of these officers are unfit on account of surgical or medical reasons, followed by defects of vision. This order of unfitness bears out the experience of former years, going back as far as 1927. It has to be borne in mind that many of these were only temporarily unfit at the date of examination and that some were fit for limited flying duties. Four hundred and thirty-one (97 per cent.), out of 444 airman pilots were fit for their full flying duties, and only 1 cadet out of 116 was found unfit for full flying duties on annual

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medical examination. This is the first year that note has been made in the health report of the state of the physical efficiency of cadets.

(ii) Of 378 officers of the general duties branch who, for reasons of age, rank, or duty, were not liable for flying duty as pilots of aircraft, 250 (66 per cent.) were found to be fit, nevertheless, for such duty, 245 at home or abroad and 5 at home only; while of 713 officers of the ancillary services, who only require to be fit to fly as passengers, 686 (96 per cent.) were found fit for the full duties of their respective branches at home and abroad. Of the 27 officers of the ancillary branches not fit for the full duties of their respective branches, 20 were fit for these duties at home only.

(iii) Of the 2,230 officers referred to in para. 73 (i) as liable to fly as pilots of aircraft, 1,404 were, in accordance with their conditions of service, liable for flying duties without any restriction, and of these, 1,335 (95 per cent.) were found to be fit for such duty: of the remaining 826 who, although liable for flying duty, were for reasons of age only expected to reach a medical standard which may limit the duration and altitude of their flight, the extent of aerobatics which they may carry out, and, in certain instances, the type of aircraft which they may pilot, 731 (88 per cent.) were considered to be fit for flying duties without any restriction, and 27 as up to their required standard. Of this latter group of 826 officers, 777 (94 per cent.) were fit for flying duties as pilots of aircraft. Of the 378 officers who were not liable for flying duties as pilots, 213 (56 per cent.) were considered fit, with no limitations or restrictions, to pilot aircraft, while 250 (66 per cent.) were fit to fly as pilots of aircraft.

(iv) Table XXIII, page 75, analyses the physical efficiency tests which are able for practical purposes to be reduced to either positive or negative, and shows the numbers and percentage of the total considered fit in each test, divided into officers of the general duties branch, cadets and airman pilots. For each officer, cadet and airman pilot the results of the individual tests are correlated to arrive at the final assessment of fit or unfit. From the results of these tests will be noted the high standard of vision, and of the teeth, mouth, and nasopharynx which is present in all classes under review, both those found fit and unfit. Some of these tests, however, do not play a very important part in arriving at the final assessment of a pilot's physical efficiency. Excluding vision, the chief factors determining the physical efficiency of a pilot are found in the tests analysed in table XXIV, page 76, and appertain to the cardio-vascular and respiratory systems.

(v) Table XXIV, page 76, analyses the average results of the standard physical efficiency tests by age groups of officers of the general duties branch, cadets, and airman pilots found fit for flying duties as pilots of aircraft. There is little variation in the results of the tests in the three classes under review.

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Medical Examination of Recruits

74. (i) During 1932, all airman recruits, prior to acceptance into the service, were medically examined at the London Recruiting Depôt, either as direct applicants or referred by civilian medical practitioners in the provinces and R.A.F. medical officers at R.A.F. stations; candidates who are definitely unfit are eliminated and only those who are considered to be fit or are on the border-line are sent to the London Recruiting Depôt for the final examination. Candidates for attestation as aircraft apprentices and apprentice clerks are examined at Halton and Ruislip respectively, by R.A.F. medical officers under arrangements of the principal medical officers of the respective areas.

(ii) The total number of medical examinations carried out on candidates for enlistment as airmen during 1932 was 2,128 compared with 6,302 and 7,031 in 1931 and 1930 respectively, and the number accepted as medically fit in 1932 was 847—40 per cent. compared with 2,415—38 per cent. and 2,793—40 per cent. in 1931 and 1930 respectively. In addition, 398 (75 per cent.) aircraft apprentices out of 531 candidates examined were attested at Halton, and 108 (46 per cent.) apprentice clerks out of 226 examined at Ruislip, making, with 607 attested airman recruits out of the 682 found medically fit, a total intake of 1,113 for 1932, compared with 2,721, and 2,919 in 1931 and 1930 respectively. Of the 682 airman recruit candidates found fit, 51 were shown to have defective colour vision and 229 had not been vaccinated.

(iii) (*a*) The total number of candidates examined at the London Recruiting Depôt during 1932 was 1,177, of whom 682 were finally found fit and 461 were finally and 34 temporarily rejected. Of those temporarily unfit, 28 presented themselves for re-examination and with five exceptions were accepted. The percentage of rejections of direct applicants at the London Recruiting Depôt was 50 compared with 52 per cent. in 1931.

(*b*) At the preliminary examination by civilian medical practitioners 753 (50·9 per cent.) were found definitely unfit out of a total of 1,477 examined. This is the same percentage of rejected as in 1931. At the final examination at the London Recruiting Depôt of candidates considered fit by civilian medical practitioners 29 per cent., were finally rejected compared with 28 per cent. in 1931. Thus the improvement in the conduct of the medical examination by civilian medical practitioners noted in 1931 has been maintained during 1932. During the year, a monthly average of 91 civilian medical practitioners have been employed in the provinces in the preliminary examination of recruits.

(*c*) Preliminary examinations of candidates as airman recruits were carried out at 21 R.A.F. stations during the year. The percentage of rejections was 33·6 compared with 37·5 in 1931, and compares with 50·9 per cent. of rejections by civilian medical

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practitioners. At the London Recruiting Depôt on final examination of the candidates referred by R.A.F. medical officers as medically fit 37·2 per cent. were rejected compared with 18·5 per cent. in 1931, and compares with 29 per cent. finally rejected from civilian medical practitioner preliminary examinations.

(iv) Table XXVI, page 79, analyses the numbers of airman recruit candidates finally rejected on medical grounds by cause and place of examination, and shows also the rate per 1,000 of each cause of rejection. As in 1930 and 1931, loss or decay of teeth was the chief cause of rejection followed by poor physique and deformities of the feet.

(v) During 1932, 30 accepted recruits, whose physique was classified as " Immature, but will improve," showed, with two exceptions, an improvement in physique as evidenced by an increase in weight on second medical examination after three to four months' training in the service.

(vi) Three aircraftmen and three aircraft apprentices, having less than six months' service, were discharged during the year on account of disabilities which were considered to have been present before attestation. The disabilities responsible for these discharges from the service were, in the case of the aircraftmen, one, nocturnal enuresis, one, dementia praecox, and one, perforation of tympanum, and in respect of the aircraft apprentices, one, disordered action of the heart, one, asthma, and one, pes planus. In addition, one aircraftman having less than six months' service was invalided on account of a disability contracted in the service. This case is included in the final invalidings in para. 13.

Princess Mary's Royal Air Force Nursing Service

75. The average monthly strength of the service was 106, and 37 members—27 at home and 10 abroad—were admitted to hospital, representing 1,020 days' sickness or an average of 9·6 days per head compared with 11·1 in 1931 and 8·9 days in 1930; the number of sick daily decreased from 3·1 in 1931 to 2·8 in 1932. One death occurred in 1932 and four members were invalided from abroad to the United Kingdom.

Transfer of Casualties by Air

76. (i) In Iraq, 138 patients were evacuated over a total distance of 24,719 miles in 82 trips, and in Palestine, 39 cases over 3,098 miles in 38 trips. Of the 120 journeys by air, 28 in Iraq and 19 in Palestine were special flights at the request of the medical authorities, while in the case of the remainder routine communication flights were taken advantage of to evacuate the patients to hospital.

(ii) In Iraq, the types of aeroplanes used were—Victorias on 59 flights, Wapitis on 20 flights, and on three occasions Rangoon Flying Boats. In Palestine, IIIFs were used except that

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on two flights a Victoria and in one instance a 504N were utilised. In Iraq, on 14 occasions a Neil Robertson stretcher was used to transport the patient by the method described in the report for 1931. In Palestine, using a IIIF aeroplane, it was found to be more comfortable for the patient to have the desert equipment removed from the rear cockpit, to be first placed in a Neil Robertson stretcher and then carried into the aeroplane lying in an ordinary service stretcher.

(iii) The longest flight undertaken in Iraq was 600 miles and in Palestine 270 miles. In both localities all types of cases—emergency and otherwise, were transported, and among others in Iraq there were 7 acute appendicitis, 1 insanity case, 4 gun shot wound cases, 2 bomb wounds, 2 pneumonia (acute), 1 case of fractured skull and 7 other fracture cases, 3 observation renal calculus (acute) and 2 pulmonary tuberculosis. A similar variety of type of case was transported by air in Palestine.

Royal Air Force Reserve of Officers

77. (i) One hundred and thirty candidates for the Reserve of Officers were examined at the Central Medical Establishment during 1932, of whom 95 were accepted as medically fit, 73 per cent. compared with 69, 75 and 68 per cent. in 1931, 1930 and 1929 respectively. The causes of rejection of the unsuccessful candidates, both temporarily and finally, are shown in table XXI, page 73.

(ii) Each year as many officers of the Reserve as possible are examined as to their physical fitness on similar lines and in accordance with the standards as obtain for regular officers. During 1932, 633 officers were examined, compared with 428 and 196 in 1931 and 1930 respectively. In the 40 millimetre physical efficiency test 33 per cent. of officers compared with 43 per cent. in 1931 were found to be "above the average," 38 per cent. were "average" compared with 24 per cent. in 1931 and 29 per cent. "below the average" compared with 33 per cent. in 1931. The percentages found to be above the average may appear low, but taking into account that officers of the Reserve have not such good facilities for taking exercise as officers of the Regular Air Force the percentages are regarded as satisfactory. In the tests for convergence and ocular muscle balance 66 per cent., were described as "very good," 31 per cent. as "good," 2·5 per cent. as "fair," and 0·5 per cent. as "poor." These percentages compare with 78, 13, 7 and 2 per cent. respectively in 1931. The standard on which the markings for the above tests were based was the efficiency index in use at the Central Medical Establishment.

(iii) Out of seven hundred and eleven officers attending annual training during the year, and excluding members of the University Air Squadrons, there were 22 cases of sickness representing 150 days' sickness or 0·2 days' sickness per head compared with 8 cases, 126 days' sickness and 0·2 days' sickness

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per head in 1931. Of the 150 days' sickness, 85 days were on account of injuries resulting from flying accidents. In 1932, the incidence of sickness and injury per 1,000 of strength was 30·9 compared with 11·3 in 1931.

(iv) There were 7 flying accidents during training, resulting in 2 deaths and 2 injured—necessitating 41 and 44 days' hospital treatment, while in the remaining 3 accidents the occupants of the aircraft escaped injury. During 1932 the total hours flown per aircraft damaged by flying accident were many in excess of any year since 1925.

Dental Treatment

78. (i) Compared with the previous year the total number of fillings completed shows a slight decrease which is attributed to an increase of scalings and denture work and to the fact that six new entrants to the branch were during the year attached to the Medical Training Depôt, Halton, for their initial course of instruction.

(ii) The percentage of aircraft apprentices found free from dental caries on entry during 1932 was 3·7 as compared with 7·3 for 1931, and the percentage in regard to airmen recruits was 3·9 as compared with 3·5.

(iii) The average number of teeth requiring conservative treatment in the case of aircraft apprentices on entry was 3·5 per head, and in the case of airman recruits 4·6 per head, whilst the average number of teeth requiring extraction was 0·5 and 0·7 respectively.

(iv) It is a fact that an increasing number of personnel visit dental officers voluntarily for periodical examination thus appreciating to a greater extent the importance of oral hygiene and treatment in the early stage of dental disease.

(v) The main dental centres are now well equipped with modern appliances, and the X-ray Department at the Uxbridge dental centre has rendered valuable service in the diagnosis of dental disease.

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TABLE XIX.—RESULTS OF 726 EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 600 CANDIDATES FOR FLYING DUTIES. 1932.

Class of candidate.	Number accepted	Number rejected.		Total.	Percentage accepted.
		Finally	Temporarily.		
Cadets	112	65	5	182	*62*
Airman pilots	57	39	2	98	*58*
Short service commissions	172	99	13	284	*61*
Fleet Air Arm	14	3	1	18	*78*
Permanent commissions (University nominations)	8	8	2	18	*44*
Total	363	214	23	600	*61*

TABLE XX.—CANDIDATES ACCEPTED FOR FLYING DUTIES.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Average results of tests.	Unit of measurement.	All classes of candidates (numbers accepted in each period are shown in brackets).			
		1925–29 (2,033)	1930 (406)	1931 (293)	1932 (312)
Standing height ..	Cms.	175·3	175·5	176·1	175·4
Weight	Kgs.	64·4	65·4	66·7	65·6
Chest	Cms.	86·8	86·3	88·8	86·6
Vital capacity	Cc.	4,921	4,991	5,053	4,898
Breath-holding	Seconds.	78·8	82·2	84·9	83·6
Expiratory force ..	Mm. Hg.	139·5	134·1	144·3	144·9
Fatigue test	Seconds.	65·8	69·4	73·0	68·1
Systolic pressure ..	Mm. Hg.	129·9	131·1	131·2	133·7
Diastolic pressure ..	Mm. Hg.	79·0	78·1	80·1	80·7
Pulse rate :—					
Sitting	Per min.	72·1	71·9	70·4	72·1
Standing	Per min.	79·9	81·7	80·8	83·1
After exercise ..	Per min.	104·8	105·5	103·3	106·9
Time taken to return to normal.	Seconds.	29·9	32·7	32·1	31·9

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TABLE XXI.—CAUSES OF REJECTION BY THE CENTRAL MEDICAL ESTABLISHMENT. 1932.

Class of candidate.	(1) Vision.		(2) Ear, nose, throat and teeth.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1), (2), (3), with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	1	13	—	2	6	16	—	4	1	5	8	40
Short service commissions ..	4	37	2	2	2	22	1	20	4	19	13	100
Cadets	—	20	—	—	4	21	1	10	—	14	5	65
Reserves	—	16	—	1	3	5	—	4	1	5	4	31
Airman pilots ..	—	19	—	3	1	8	1	6	—	3	2	39
Auxiliary Air Force	—	4	—	1	—	—	—	—	1	—	1	5
Fleet Air Arm ..	—	—	—	—	1	3	—	—	—	—	1	3
P.M.R.A.F.N.S. ..	1	—	—	—	1	4	—	—	1	—	3	4
Preliminary for commissions and cadets	2	14	1	—	7	9	2	1	2	3	14	27
Others	—	3	—	—	—	—	—	—	—	—	—	3
Total ..	8	126	3	9	25	88	5	45	10	49	51	317

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TABLE XXII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE TO FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1932	1,483	136	1,619	92
	1931	*1,435*	*163*	*1,598*	*90*
	1930	*1,457*	*137*	*1,594*	*91*
	1929	*1,424*	*201*	*1,625*	*88*
	1928	*1,330*	*205*	*1,535*	*87*
	1927	*1,308*	*188*	*1,496*	*87*
	1926	*1,375*	*191*	*1,566*	*88*
	1925	*1,401*	*154*	*1,555*	*90*
	1924	*1,384*	*168*	*1,552*	*89*
	1923	*1,330*	*196*	*1,526*	*87*
	1922	*1,181*	*173*	*1,354*	*87*
Abroad	1932	583	28	611	95
	1931	*582*	*29*	*611*	*95*
	1930	*561*	*25*	*586*	*96*
	1929	*586*	*39*	*625*	*94*
	1928	*517*	*48*	*565*	*92*
	1927	*519*	*56*	*575*	*90*
	1926	*593*	*57*	*650*	*91*
	1925	*665*	*52*	*717*	*93*
	1924	*672*	*60*	*732*	*92*
	1923	*616*	*85*	*701*	*88*
	1922	*638*	*104*	*742*	*86*
Total	1932	2,066	164	2,230	93
	1931	*2,017*	*192*	*2,209*	*91*
	1930	*2,018*	*162*	*2,180*	*93*
	1929	*2,010*	*240*	*2,250*	*89*
	1928	*1,847*	*253*	*2,100*	*88*
	1927	*1,827*	*244*	*2,071*	*88*
	1926	*1,968*	*248*	*2,216*	*89*
	1925	*2,066*	*206*	*2,272*	*91*
	1924	*2,056*	*228*	*2,284*	*90*
	1923	*1,946*	*281*	*2,227*	*87*
	1922	*1,819*	*277*	*2,096*	*87*

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TABLE XXIII.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH, CADETS AND AIRMAN PILOTS, 1932.

Nature of test.	Officers.						Cadets, 116		Airman pilots, 444.		Total officers, cadets and airman pilots, 2,790.	
	Fit for flying duties, 2,066.		Unfit for flying duties, 164.		Total, 2,230.							
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	889	43	51	31	940	42	38	33	142	32	1,120	40
,, present	1,177	57	113	69	1,290	58	78	67	302	68	1,670	60
Self-balancing, steady	1,972	95	146	89	2,118	95	110	95	433	98	2,661	95
,, ,, unsteady ..	94	5	18	11	112	5	6	5	11	2	129	5
Knee jerks—normal	1,840	89	136	83	1,976	89	103	89	399	90	2,478	89
,, ,, abnormal	226	11	28	17	254	11	13	11	45	10	312	11
Vision, 6/6 both eyes	1,973	95	140	86	2,113	95	113	97	438	99	2,664	96
,, 6/6 and 6/9; 6/9 and 6/9	78	4	7	4	85	4	3	3	6	1	94	3
,, over 6/9 in either eye ..	15	1	17	10	32	1	—	—	—	—	32	1
Nasopharynx—normal	1,988	96	161	98	2,149	96	113	97	428	96	2,690	96
,, abnormal ..	78	4	3	2	81	4	3	3	16	4	100	4
Teeth—no treatment required ..	1,874	91	152	93	2,026	91	112	97	398	90	2,536	91
,, treatment required ..	192	9	12	7	204	9	4	3	46	10	254	9
Pyorrhœa—absent	2,057	(a)	160	98	2,217	99	116	100	442	(a)	2,775	99
,, present	9		4	2	13	1	—	—	2		15	1

(a) Present in less than 0·5% of numbers examined.

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TABLE XXIV.—AVERAGE RESULTS OF TESTS OF 2,066 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, 115 CADETS AND 431 AIRMAN PILOTS FIT FOR FLYING DUTIES. 1932.

——	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.			Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing.	After-exercise.			
OFFICERS.	Years.		Yrs.	Kgs.	Secs.	Mm. Hg.	Secs.				Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	575	22·7	70·4	82·3	156·6	66·1	71·2	77·2	100·3	23·9	123·6	47·2
	25–30 ..	439	27·4	71·4	83·0	165·9	66·5	71·3	76·4	98·2	22·8	124·2	47·0
	31 and over	469	35·4	72·4	77·6	168·9	63·7	72·0	77·6	99·2	23·7	125·3	46·4
	All ages ..	1,483	28·1	71·3	81·0	163·2	65·5	71·5	77·1	99·4	23·5	124·3	46·9
Abroad	Under 25 ..	190	23·1	69·7	82·3	153·7	65·2	71·1	78·1	99·9	25·3	121·2	46·5
	25–30 ..	193	27·3	71·4	85·8	161·2	65·4	72·5	78·5	99·7	24·1	122·2	45·9
	31 and over	200	35·2	71·4	80·6	161·5	63·3	71·5	78·1	98·0	25·4	121·5	44·8
	All ages ..	583	28·6	70·8	82·9	158·8	64·6	71·7	78·2	99·2	24·9	121·6	45·7
Total force ..	Under 25 ..	765	22·8	70·2	82·3	155·9	65·9	71·2	77·4	100·2	24·3	123·0	47·0
	25–30 ..	632	27·4	71·4	83·8	164·5	66·2	71·7	77·0	98·6	23·2	123·6	46·7
	31 and over	669	35·3	72·1	78·5	166·7	63·6	71·9	77·8	98·8	24·2	124·2	45·9
	All ages ..	2,066	28·3	71·2	81·6	162·0	65·2	71·6	77·4	99·3	23·9	123·6	46·6

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CADETS	Under 25 ..	115	19·9	68·8	81·4	135·9	69·8	70·1	74·8	98·2	18·5	123·0	46·0
AIRMAN PILOTS.													
At home	*Under 25* ..	*132*	*23·4*	68·0	86·4	158·5	64·9	71·2	76·6	100·3	23·1	126·4	49·6
	25–30 ..	*139*	*26·9*	*67·1*	*81·3*	*158·4*	*65·6*	*71·5*	*76·6*	*100·5*	*23·9*	*126·0*	*48·2*
	31 and over	15	33·6	71·6	79·7	168·3	67·7	74·3	81·6	102·8	21·0	129·9	47·6
	All ages ..	286	25·6	67·7	83·6	159·0	65·4	71·5	76·8	100·5	23·4	126·4	48·8
Abroad	Under 25 ..	102	23·9	64·7	88·8	159·9	67·5	71·0	79·0	100·8	23·1	125·1	48·2
	25–30 ..	41	26·1	66·4	85·9	164·5	65·2	72·4	79·6	99·8	22·1	123·1	45·7
	31 and over	2	34·5	71·2	81·0	160·0	60·5	72·0	78·0	102·0	22·5	132·0	49·0
	All ages ..	145	24·7	65·3	87·9	161·2	66·8	71·4	79·2	100·5	22·8	124·6	47·4
Total force ..	Under 25 ..	234	23·6	66·6	87·5	159·1	66·0	71·1	77·6	100·5	23·1	125·9	49·0
	25–30 ..	180	26·7	66·9	82·4	159·8	65·5	71·7	77·3	100·3	23·5	125·4	47·7
	31 and over	17	33·7	71·5	79·9	167·4	66·9	74·0	81·2	102·7	21·2	130·1	47·7
	All ages ..	431	25·3	66·9	85·0	159·7	65·9	71·5	77·6	100·5	23·2	125·8	48·4

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TABLE XXV.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 164 OFFICERS OF THE GENERAL DUTIES BRANCH. 1932.

Defect.	At home.	Abroad.	Total.
Vision	30	7	37
Ears or teeth	7	1	8
Medical	43	10	53
Surgical	47	8	55
D.P.E.	7	2	9
D.P.E. and medical	2	—	2
Total ..	136	28	164

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TABLE XXVI.—RECRUITS—CAUSES OF REJECTION. 1932.

Total examined, 2,128. / Cause of rejection.	Numbers rejected. By civilian medical practitioners.	At London Recruiting Depôt.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	242	53	12	307	144	289
Physique, poor	138	25	2	165	78	155
Feet, deformities of	128	52	2	182	86	171
Heart, diseases of, including D.A.H.	90	23	2	115	54	108
Ears, diseases of	20	19	—	39	18	37
Lungs, diseases of	6	12	2	20	9	19
Vision, defects of	45	25	—	70	33	66
Speech, defects of	3	5	—	8	4	7
Nervous system, diseases of	1	3	1	5	2	5
Cutaneous system, diseases of ..	7	10	—	17	8	16
Albuminuria	2	1	2	5	2	5
Eyes and eyelids, diseases of ..	2	12	—	14	7	13
Hernia and bubonocele	10	—	2	12	6	11
Joints, diseases of	1	—	—	1	1	1
Veins, diseases of (varix)	7	10	2	19	9	18
Varicocele	15	1	1	17	8	16
Chest and spine, malformations of ..	—	1	—	1	1	1
Urinary organs, diseases of	3	2	—	5	2	5
Bed-wetting, history of	—	5	—	5	2	5
Ulcers, wounds, cicatrices	3	2	—	5	2	5
Other causes	30	15	5	50	23	47
Total	753	276	33	1,062	499	1,000

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TABLE XXVII.—DENTAL TREATMENT BY R.A.F. OFFICERS. 1932.

Treatment.	United Kingdom. (Average strength, 23,053.)	Mediterranean Littoral. (Average strength, 3,119.)	Iraq. (Average strength, 2,089.)	Total. (Average strength, 29,037.)
Fillings	28,666	4,302	1,902	34,870
Scalings	7,260	1,220	335	8,815
Extractions	10,474	2,548	645	13,667
Root fillings	147	25	13	185
Number of dentures supplied	452	103	40	595
Number of personnel fitted with dentures ..	322	68	31	421
Repairs to dentures ..	70	18	23	111
Remodels..	181	62	28	271

Note.—Dental treatment for R.A.F. personnel in India, Palestine and Khartoum is carried out by the Army.

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TABLE XXVIII. SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1932.

Nature of Examinations.	United Kingdom.			Abroad.				Total.
	R.A.F. Pathological.	Cranwell.	Halton.	Hinaidi and Basrah.	Aden.	Palestine.	Egypt.	
ANALYSES :—								
Faeces	81	1	24	14	3	5	0	128
Gastric	72	9	0	22	2	2	0	107
Urine	1,846	1,702	4,800	346	617	1,030	1,168	11,509
Food	25	5	0	7	76	7	0	120
Sewage	90	0	0	0	0	0	0	90
Water	291	0	1	0	261	9	45	607
BLOOD :—								
Agglutinations	325	1	0	40	15	26	0	407
Coagulation time	18	66	157	2	0	0	0	243
Counts	415	146	127	250	46	71	107	1,162
Cultures	328	5	3	62	8	6	1	413
Malaria parasites	349	8	90	459	43	240	240	1,429
Sugar tests	143	3	7	0	0	0	0	153
Urea tests	329	14	2	24	0	0	1	370
Van den Bergh	126	2	0	2	2	4	0	136
Wassermann	653	156	0	34	54	230	30	1,157
CEREBRO-SPINAL FLUID :—								
Bio-chemical	32	2	3	5	0	0	0	42
Cell counts	32	2	3	5	1	0	0	43
Complement deviation	32	0	3	1	0	0	0	36
Cultures	29	2	3	5	1	0	0	40
Meningococcus	8	2	3	5	0	0	0	18
Tubercle bacillus	22	1	3	2	0	0	0	28
DISCHARGE FOR :—								
Bacillus Ducrey	7	0	0	51	0	19	6	83
Gonococcus	69	212	342	626	286	403	107	2,045
Spironema	17	2	16	45	10	20	7	117
FAECES :—								
Bacteria	1,023	55	34	1,239	558	567	66	3,542
Protozoa	1,036	71	37	1,854	428	637	81	4,144
Helminths	422	41	42	64	114	180	75	938
PATHOLOGICAL SPECIMENS	79	18	0	13	8	0	1	119
PERI-DENTAL SMEARS	69	0	0	5	0	1	1	76
PUS FOR :—								
Pyogenic organisms	207	14	360	14	30	20	24	669
Leishmania	10	0	0	6	0	0	1	17
RENAL EFFICIENCY TESTS	299	15	12	18	0	0	0	344
SEPTIC FLUIDS	110	23	10	21	10	11	18	203
SPUTA :—								
General	331	84	146	120	90	98	80	949
Tubercle bacillus	439	160	196	169	126	360	105	1,555
THROAT SWABS	9,178	610	50	780	250	350	220	11,438
VACCINES, AUTOGENOUS	141	50	0	20	15	0	6	232
MISCELLANEOUS EXAMINATIONS	2,405	160	10	1,380	24	50	20	4,049
TOTALS	21,088	3,642	6,484	7,710	3,078	4,346	2,410	48,758
	31,214 United Kingdom.			17,544 Abroad.				

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The following Report on the Health of the Royal Air Force for the Year 1933 is issued for the information and guidance of all concerned.

By Command of the Air Council,

C. Ll. Bullock

AIR MINISTRY

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force during 1933.

The incidence of sickness shows an increase compared with 1932, the increase amounting to 53 per 1,000 of strength for cases admitted to hospitals and sick quarters only, and 76 per 1,000 for all cases of medical non-effectiveness. In comparing the two years, allowance must be made for the fact that the record of sickness during 1932, excluding cases of less than 48 hours' duration, was the lowest since the inception of these reports.

An increased incidence of influenza to 58·8 per 1,000 in 1933 from 27·0 per 1,000 in 1932 was the chief reason for the increase.

The incidence of deaths was 3·7 per 1,000 of strength, which compares with 3·6 per 1,000 in 1932 and 4·1 and 4·4 per 1,000 for the periods 1927–1932 and 1921–1926 respectively.

The incidence of invalidings from the Service fell from 6·8 per 1,000 of strength in 1932 to 6·1 per 1,000 in 1933, and compares with average incidences of 6·8 and 10·4 per 1,000 for the periods 1927–1932 and 1921–1926 respectively.

The rate of invaliding to the United Kingdom from abroad was 14·8 per 1,000 in 1933, compared with 13·5 per 1,000 in 1932.

The incidence of venereal disease was 11·5 per 1,000 in 1933, compared with 11·3 per 1,000 in 1932—the lowest incidence yet recorded in the Royal Air Force.

I have the honour to be, Sir,

Your obedient Servant,

J. McINTYRE,
Director of Medical Services,
Royal Air Force.

August, 1934.

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Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.						
		Duration.		Total.								Fresh cases of sickness.		Deaths.	Invalided out of service.	Invalided to United Kingdom.	No. sick daily.	
		Less than 48 hours.	More than 48 hours.					48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.				48-hour cases included.	48-hour cases excluded.
United Kingdom (*a*)																		
1933	21,874	4,916	9,003	13,919	79	147	—	11	16	6·8	6·5	636	412	3·6	6·7	—	18·6	17·8
1927–32. Average.. ..	*22,718*	*4,317*	*8,451*	*12,768*	*83*	*182*	—	*13*	*19*	*7·4*	*7·2*	*562*	*372*	*3·7*	*8·0*	—	*20·3*	*19·7*
1921–26. Average.. ..	*22,267*	*9,504*	*8,329*	*17,833*	*72*	*270*(*c*)	—	*9*	*18*	*7·4*	*6·8*	*801*	*374*	*3·2*	*12·1*(*c*)	—	*20·3*	*18·6*
Fleet Air Arm: All areas.																		
1933..	972	215	352	567	3	4	8	12	18	6·9	6·5	583	362	3·1	4·1	19·7	18·9	17·8
1927–32. Average.. ..	*823*	*307*	*328*	*635*	*7*	*3*	*8*	*9*	*16*	*7·0*	*6·5*	*772*	*398*	*8·5*	*3·6*	*19·6*	*19·2*	*17·8*
Mediterranean Littoral.																		
1933 (*b*)	4,042	1,453	1,926	3,379	11	19	56	10	16	8·4	7·8	836	476	2·7	4·7	13·9	23·0	21·4
1927–32. Average(*b*) ..	*3,670*	*1,729*	*1,930*	*3,659*	*16*	*13*	*48*	*9*	*16*	*9·2*	*8·5*	*997*	*526*	*4·4*	*3·5*	*13·1*	*25·2*	*23·3*
1921–26. Average(*a*) ..	*3,640*	*2,291*	*2,036*	*4,327*	*20*	*20*	*59*	*10*	*19*	*11·5*	*10·6*	*1,189*	*559*	*5·5*	*5·5*	*16·2*	*31·5*	*29·0*
Iraq.																		
1933..	2,017	567	1,432	1,999	8	12	49	14	19	13·6	13·2	991	710	4·0	5·9	24·3	37·3	36·2
1927–32. Average.. ..	*2,298*	*915*	*1,554*	*2,469*	*12*	*9*	*62*	*13*	*19*	*13·5*	*12·9*	*1,074*	*676*	*5·2*	*3·9*	*27·0*	*37·0*	*35·3*
1921–26. Average.. ..	*2,997*	*2,875*	*2,805*	*5,680*	*26*	*18*	*82*	*10*	*19*	*18·6*	*17·4*	*1,895*	*936*	*8·3*	*6·0*	*27·4*	*51·0*	*47·7*
India.																		
1933..	2,109	733	1,207	1,940	16	8	16	10	15	8·8	8·3	920	572	7·6	3·8	7·6	24·1	22·7
1927–32. Average.. ..	*2,047*	*981*	*1,297*	*2,278*	*11*	*6*	*23*	*9*	*15*	*10·1*	*9·4*	*1,113*	*634*	*5·4*	*2·9*	*11·2*	*27·7*	*25·8*
1921–26. Average.. ..	*1,872*	*2,279*	*1,380*	*3,659*	*17*	*12*	*49*	*7*	*16*	*13·8*	*12·0*	*1,955*	*737*	*9·1*	*6·4*	*26·2*	*37·8*	*32·9*
Abroad: All areas.(*a*) (*d*)																		
1933	8,994	2,956	4,963	7,919	36	41	133	11	17	9·9	9·4	880	552	4·0	4·6	14·8	27·1	25·8
1927–32. Average.. ..	*8,628*	*3,953*	*5,101*	*9,054*	*44*	*31*	*146*	*10*	*17*	*10·6*	*10·0*	*1,049*	*591*	*5·1*	*3·6*	*16·9*	*29·0*	*27·4*
1921–26. Average.. ..	*8,508*	*7,445*	*6,222*	*13,667*	*62*	*50*	*189*	*9*	*18*	*14·5*	*13·3*	*1,606*	*731*	*7·3*	*5·9*	*22·2*	*39·7*	*36·4*
All areas.																		
1933..	30,868	7,872	13,966	21,838	115	188	133	11	16	7·7	7·3	708	452	3·7	6·1	14·8	21·1	20·0
1927–32. Average.. ..	*31,346*	*8,271*	*13,551*	*21,822*	*127*	*213*	*146*	*12*	*18*	*8·3*	*7·9*	*696*	*432*	*4·1*	*6·8*	*16·9*	*22·7*	*21·6*
1921–26. Average.. ..	*30,776*	*16,950*	*14,550*	*31,500*	*135*	*320*(*c*)	*189*	*9*	*18*	*9·3*	*8·6*	*1,024*	*473*	*4·4*	*10·4*(*c*)	*22·2*	*25·5*	*23·6*

(*a*) Includes Fleet Air Arm in this area. (*b*) Excludes Fleet Air Arm in this area. (*c*) Excludes 711 invalids through Discharge Centre Medical Board during 1921.
(*d*) Includes sickness at Far East stations (293 cases, 1 death, 1 finally invalided and 4 invalided to United Kingdom in 1933: average strength 420.)

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1933

General

1. To understand fully the figures of the sickness incidence and nosological tables of this report, a short explanation of the system of medical administration in the Royal Air Force as far as it affects the compiling of these tables is required. At all R.A.F. stations, other than those where air force hospitals are established, are sick quarters which provide bed accommodation for approximately one per cent. of the total station personnel, with a minimum of four beds. Facilities are available at these sick quarters for the treatment of serious emergency cases where the urgency of the case may require the performance of a major operation, for observation in cases of suspected notifiable disease and for the treatment of cases of sickness and injury not requiring prolonged hospital or specialist treatment and investigation, but when it is expected that the patient will be fit to return to duty in a short time. If patients are retained for more than 48 hours in sick quarters, they are shown as admitted to sick quarters. Patients requiring hospital treatment and specialist investigation are admitted to air force, military, naval or civil hospitals as circumstances warrant. These two classes of patients, i.e., admissions to hospital and to sick quarters are shown in Table I (the general incidence table) under the heading " more than 48 hours " duration. In addition, sick personnel who are non-effective, i.e., excused all duty, for a period of not more than 48 hours consecutively are not recorded as admissions to sick quarters but are shown in Table I (the general incidence table) as cases of " less than 48 hours " duration. Only cases of sickness of more than 48 hours duration, i.e., admissions to hospitals and sick quarters are shown in the nosological tables.

2. Tables I, II and III compare the incidence figures for 1933 with the two preceding periods 1927–32 and 1921–26. These two periods are referred to throughout this report as the two preceding periods respectively.

3. The total sickness in the force at home and abroad is analysed in Table I, page viii, by geographical areas, comparing 1933 with the two preceding periods. Under the geographical area of Mediterranean Littoral are included the following, showing the average personnel strengths—Malta 431, Egypt 2,129, Sudan 189, Transjordan and Palestine 621, Aden 406, and drafts en route to and from the United Kingdom 247. Up to the year 1926 inclusive, the personnel of the Fleet Air Arm in the Mediterranean Littoral were included under this heading, but since 1927 the Fleet Air Arm has been shown as a separate entity. This year the personnel of the Fleet Air Arm serving in home waters and in areas other than home waters have been included under

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the total force at home and abroad respectively. A footnote to Table I shows the incidence of sickness at stations in the Far East Command, average strength 420, which includes Singapore and Kai Tak, China.

4. During 1933 the average strength of the total force was 30,868. The total number of cases of sickness, which includes admissions to hospitals and sick quarters, and cases of not more than 48 hours duration, was 21,838—a case incidence of 708 per 1,000 of strength compared with 632 per 1,000 in 1932 and average incidences of 696 and 1,024 respectively for the two preceding periods.

5. In the total force, the number of admissions to hospitals and sick quarters was 13,966—an incidence of 452 per 1,000 of strength compared with an incidence of 399 per 1,000 during 1932 and average incidences of 432 and 473 respectively for the two preceding periods. This increase in 1933 over 1932 is accounted for, chiefly, by an increase in the incidence of influenza from 27·0 in 1932 to 58·8 per 1,000 in 1933.

6. Analysing the sickness in the force at home and abroad, the total sickness incidence at home was 636 per 1,000 in 1933, compared with 534 in 1932 and with average incidences of 562 and 801 per 1,000 for the two preceding periods. Abroad the total sickness incidence in 1933 was 880 per 1,000, compared with 889 during 1932 and average incidences of 1,049 and 1,606 per 1,000 for the two preceding periods.

At home, the number of admissions to hospitals and sick quarters was 9,003, representing an incidence of 412 per 1,000 of strength compared with an incidence of 355 per 1,000 in 1932 and average incidences of 372 and 374 during the two preceding periods. Abroad, the comparable figures are 4,963 admissions to hospitals and sick quarters, an incidence of 552 per 1,000 in 1933, which compares with 514 per 1,000 in 1932 and average incidences of 591 and 731 for the two preceding periods.

Comparing the case incidences during 1933 with those of 1932, the Mediterranean Littoral shows increases, while the Fleet Air Arm records decreases. In Iraq and India the case incidence decreased in 1933 if 48 hours' cases are included, and increased if 48 hours' cases are excluded; the latter was particularly marked in the Iraq command. Actually in all areas abroad, as a whole, the case incidence is increased, if 48 hours' cases are excluded, but there is little change, if such cases are included.

7. (i) In the total force, the number of sick daily, including cases of not more than 48 hours' duration was 21·1 per 1,000 of strength in 1933, compared with 20·5 in 1932 and average incidences of 22·7 and 25·5 per 1,000 for the two preceding periods. Comparing the force at home and abroad the figures are as follows:—At home, 18·6 per 1,000 of strength were constantly sick in 1933, compared with 18·4 in 1932 and 20·3 per 1,000 for

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each of the two preceding periods ; abroad, the incidences were 27·1 per 1,000 in 1933, compared with 25·5 in 1932, and 29·0 and 39·7 per 1,000 for the two preceding periods.

(ii) Excluding cases of not more than 48 hours' duration, the number of sick daily in the total force was 20·0 per 1,000 of strength in 1933, compared with 19·4 during 1932 and average figures of 21·6 and 23·6 for the two preceding periods. At home, the constantly daily sick incidence for admissions was 17·8 per 1,000 in 1933, compared with 17·7 in 1932 and average incidences of 19·7 and 18·6 per 1,000 for the two preceding periods. Abroad the number of sick daily for admissions to hospital and sick quarters was 25·8 per 1,000 of strength in 1933, compared with an incidence of 24·0 in 1932 and average incidences of 27·4 and 36·4 per 1,000 for the two preceding periods.

8. In the total force, the average duration of each case was 11 days in 1933, compared with 12 days in 1932 and 12 and 9 days for the two preceding periods. In 1933 the average number of days' sickness per head was 7·7 days, compared with 7·5 days in 1932 and 8·3 and 9·3 days for the two preceding periods.

9. (i) Table II, page 23, analyses causes of sickness, excluding cases of less than 48 hours' duration, in the total force, by certain diseases, groups of diseases and injuries, to show the number of cases, deaths and invalids under each heading, and further states the percentage of each cause to the total, comparing 1933 with the two preceding periods.

(ii) During 1933, disease accounted for 82·1 per cent. of the total sickness and injuries for 17·9 per cent. These percentages compare with 79·9 and 20·1 per cent. for disease and injuries respectively in 1932, and average percentages of 82·4 and 85·4 for disease and 17·6 and 14·6 for injuries over the two preceding periods. Thus during 1933 the more or less constant relationship of disease and injuries as a cause of sickness has been maintained.

(iii) Both during 1933 and for the two preceding periods " other diseases due to infection " showed the highest percentage of the total sickness. This fact has been observed also in 1932 and 1931. In the periods under review, injuries account for the second highest percentage of total sickness. Owing to an increase in the number of cases of influenza from 860 in 1932 to 1,816 in 1933, influenza, considering disease only, was the second highest cause of sickness at 13·0 per cent. in 1933. The fall in the number of cases of malaria during 1931 and 1932 was not maintained in 1933 as there was an increase of 159 to 456 cases in 1933 compared with 1932, representing an increase in the percentage of the total sickness of 1·0 per cent. There was a very slight fall of 0·3 per cent. in venereal disease as a cause of the total sickness. The maintenance of the low percentage in this group of diseases is considered very satisfactory, as the low figure recorded in 1932 was not expected to be improved upon. This percentage of 2·5 for 1933 is the more remarkable when compared with the average

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percentages of 3·6 and 5·2 for the two preceding periods. There were decreases in 1933 from 1932 in the number of cases of sandfly fever and diseases of the digestive system, representing decreases of 0·7 and 1·6 per cent. respectively of the total.

10. The incidences of deaths and invalids shown in tables I and II, pages viii and 23, are commented upon under these respective headings in this chapter.

11. (i) The incidence of sickness and the average duration of each case in days for groups of diseases and injury groups are analysed in table III, page 24, for 1933 and the two preceding periods. This table further shows these incidences divided as they occur in the total force, and the force at home and abroad. The incidence of sickness due to disease rose from 318·4 in 1932 to 371·4 per 1,000 in 1933. This increase in disease incidence is chiefly accounted for by a rise in the incidence of diseases caused by infection, chiefly influenza, from 180·4 in 1932 to 223·1 per 1,000 in 1933, and the increase in incidence occurred almost entirely in the force at home from 139·5 in 1932 to 195·4 per 1,000 in 1933. This sickness incidence due to disease of 371·4 per 1,000 compares with average incidences for the two preceding periods of 356·3 and 403·7 per 1,000 respectively and the incidence of 223·1 per 1,000 for diseases caused by infection compares with average incidences of 212·6 and 255·9 per 1,000 for the two preceding periods. The case incidence of diseases of the digestive system is decreased at home, while abroad there are increases in the incidences of diseases of the ear and nose, diseases of the digestive system and diseases of the areolar tissue and skin, comparing 1933 with 1932. The incidence of sickness due to injuries was 81·0 in 1933, compared with 80·3 in 1932 and average incidences of 76·0 and 69·2 per 1,000 for the two preceding periods.

(ii) The average duration for cases of disease was 15 days in 1933, compared with 17 in 1932 and 18 days for each of the two preceding periods. The injury group shows very little variation in the average duration of each case, as in 1933 the duration was 19 days compared with 21 days in 1932 and averages of 21 and 20 days for the two preceding periods.

Fleet Air Arm

12. The incidence of all cases of sickness was 583 per 1,000 of strength, compared with 631 in 1932 and 772 per 1,000 for the period 1927–32. Considering only admissions to hospitals and sick quarters, the incidence was 362 per 1,000, compared with 371 during 1932 and an average incidence of 398 per 1,000 for the period 1927–32. The number of deaths in 1933 was three, giving an incidence of 3·1 per 1,000, compared with 11·1 in 1932 and 8·5 per 1,000 for the period 1927–32. The incidence of deaths compares favourably with the death incidence for the total force of 3·7 per 1,000 in 1933. The final invaliding incidence was

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higher at 4·1 per 1,000 in 1933, representing 4 final invalids, compared with 3·3 per 1,000 in 1932 and the average incidence of 3·6 for the period 1927–32. It compares favourably, however, with the final invaliding incidence for the total force of 6·1 per 1,000 in 1933. The incidence of invalids to the United Kingdom from abroad was 19·7 per 1,000 in 1933, compared with 24·2 in 1932 and an average incidence of 19·6 for the period 1927–32. The comparative incidence for the total force in 1933 was 14·8 per 1,000 of strength.

Including 48 hours' cases, the number of sick daily was 18·9 per 1,000 in 1933, compared with 19·9 in 1932 and 19·2 for the period of 1927–32; the average duration of each case in days was 12 in 1933, compared with 12 in 1932 and 9 for the period 1927–32; and the average number of days' sickness per head was 6·9 in 1933, compared with 7·3 in 1932 and 7·0 for the period 1927–32. If cases of less than 48 hours are excluded, the constantly sick incidence was 17·8 per 1,000 in 1933, compared with 18·9 in 1932 and 17·8 for the period 1932–27; the average duration of each case in days was 18 in 1933, 19 days in 1932 and 16 days for the period 1927–32; and the average number of days' sickness per head was 6·5 in 1933, 6·9 in 1932 and 6·5 days for the period 1927–32. The strength of the Fleet Air Arm is too small to make any conclusive deductions, but these figures showing variation within small margins will be noted.

Invalidings

13. *General.*—Table I, page viii, shows the numbers and incidences per 1,000 of strength of final invalidings and invalidings to the United Kingdom, by geographical areas and total force, for the year 1933 and for the two preceding periods. Table II, page 23, analyses the final invalidings by disease and injury groups, showing the number and the percentage of the total attributable to each group for 1933 and the average percentages for the two preceding periods. Table XII, page 34, the chief nosological table for the year, shows the incidence of final invalids by disease and injury causes and the incidence of invalidings to the United Kingdom from abroad. The incidences of invalidings for the Fleet Air Arm are commented upon in paragraph 12.

14. *Invalids from commands abroad to the United Kingdom.*—(i) During 1933, 31 officers and 102 airmen were invalided from abroad to the United Kingdom, representing an incidence of 14·8 per 1,000, compared with 13·5 in 1932 and average incidences of 16·9 and 22·2 per 1,000 for the two preceding periods. During 1933, there were decreases in the incidence of invalidings to the United Kingdom from India and from the Fleet Air Arm to 7·6 from 8·2 per 1,000 in 1932 and 19·7 from 24·2 per 1,000 in 1932 respectively. In the Mediterranean Littoral the invaliding incidence to the United Kingdom increased to 13·9 in 1933 from 11·0 per 1,000 in 1932, and in Iraq to 24·3 in 1933 from 23·0 per 1,000 in 1932.

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(ii) The groups of diseases accounting for the majority of the invalidings to the United Kingdom in 1933 were as shown below. The comparative invalidings for these groups of diseases during 1932 are also shown.

	1933.		1932.	
Diseases of nervous system and brain—				
Psychoneurosis ..	15		8	
Mental diseases ..	5	25	4	18
Others	5		6	
Tuberculosis, respiratory ..	15	18	7	8
,, all other forms	3		1	
Diseases of digestive system		12		14
Injuries		11		17
Diseases of eye		11		8
Diseases of respiratory system (excluding tuberculosis and pneumonia) ..		10		6
Diseases of ear and nose—				
Chronic suppurative otitis media	6	10	1	3
Others	4		2	
Diseases of circulatory system		7		3

During 1933, these diseases accounted for 104 invalidings out of a total of 133. Comparing 1933 with 1932 there are fairly marked increases in invalidings to the United Kingdom on account of psychoneurosis, respiratory tuberculosis, diseases of the ear and nose and a decrease due to injuries.

(iii) Of the 31 officers invalided to the United Kingdom, 25 were invalided on account of disease, including two in which the disease was the result of old injury, and the remaining 6 on account of recent injury, of which two were caused by flying accidents and two by motor car accidents. Of the 102 airmen invalided, 97 were on account of disease, including 4 as the result of old injury, and the remaining 5 were due to injuries.

(iv) The 133 invalidings to the United Kingdom were from the following areas :—

	Officers.	*Airmen.*	*Total.*
Iraq	7	42	49
Egypt	6	26	32
India	8	8	16
Aden	2	9	11
Palestine	2	7	9
Fleet Air Arm	4	4	8
Malta	1	3	4
Far East	1	3	4
Total	31	102	133

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(v) Of the 31 officers invalided to the United Kingdom, 21 were returned to duty during the year, and the remaining ten were still under treatment at the end of the year. None of these officers was finally invalided during the year. Of the 102 airmen, 44 were returned to duty, 24 were finally invalided from the service and 34 were remaining under treatment.

15. *Final invalids.*—(i) During 1933, 14 officers and 174 airmen, a total of one hundred and eighty eight, were invalided from the service, representing an incidence of 6·1 per 1,000, compared with 218, giving an incidence of 6·8 per 1,000, in 1932 and average incidences of 6·8, and 10·4 per 1,000 for the two preceding periods. During 1933, disease as distinct from injury, was responsible for 92·0 per cent. of final invalids compared with 93·6 per cent. in 1932, 91·6 per cent. in 1931 and 90·9 per cent. in 1930, and average percentages of 91·6 and 95·0 over the two preceding periods. As noted in previous reports, disease and injury as causes of final invaliding bear a fairly constant relationship to each other. During 1933, and for the two preceding periods, diseases of the nervous system and brain recorded the greatest percentage of final invalidings with 35·1, 26·9 and 24·6 per cent. respectively. Tuberculosis occupied second place as a cause of final invaliding with 20·2 per cent. in 1933 and 13·1 and 13·8 per cent. for the two preceding periods. During 1932, diseases of the nervous system and brain and tuberculosis also occupied first and second places respectively, as causes of final invalidings shown as percentages of the total invalidings. Injuries were responsible for 8·0 per cent. of final invalidings, compared with 6·4 in 1932, and average percentages of 8·4 and 5·0 for the two preceding periods.

(ii) In past years certain groups of diseases and disabilities have proved the chief causes of final invalidings. The following comparison is made in the numbers of these causes which led to final invaliding in the year under review compared with 1932 and 1931.

	1933.		1932.		1931.	
Diseases of nervous system and brain—						
Psychoneurosis	24		21		32	
Mental diseases	21	66	12	55	15	73
Epilepsy	8		8		13	
Others	13		14		13	
Tuberculosis—						
Respiratory	35	38	31	36	19	25
Other forms	3		5		6	
Diseases of eye	15		13		10	
Injuries—						
Fractures	8		11		17	
Wounds	5	15	3	14	1	20
Others	2		—		2	

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Diseases of organs of locomotion—								
Diseases of the bone	7			3			7	
Diseases of the joints	3	11		6	14		8	24
Deformities of limbs	1			5			9	
Diseases of digestive system ..		11			13			13
Acute rheumatism		7			6			6
Diseases of respiratory system (excluding pneumonia and respiratory tuberculosis)		5			8			16
Diseases of ear and nose—								
Chronic suppurative otitis media	4		5	13		15	8	9
Others	1			2			1	
Diseases of heart—								
Valvular	4			5			4	
Disordered action	—		4	3		15	8	13
Endocardial	—			5			1	
Myocardial	—			2			—	
Diseases of urinary organs ..		3			9			5
Tumours		1			4			3

It is observed that during 1933 the same diseases, tuberculosis and pyschoneurosis, proved the chief causes of invaliding from the service as during the years 1932 and 1931. The other observations worthy of note from these comparative figures are, firstly, the increase as a cause of final invaliding in the number of cases of mental diseases for which no reason is obvious, secondly, the decrease in the number of cases of chronic suppurative otitis media, and thirdly, the marked decrease in the number of cases of diseases of the heart finally invalided in 1933 compared with 1932 and 1931. Although the figures involved are small, it may be assumed that the decreases noted are a reflection of the efficiency of the medical examination on entry in rejecting candidates who might possible have become final invalids in the course of their service.

(iii) All the fourteen officers were finally invalided on account of disease, but in four cases the disease was the result of old injury. Of the 174 airmen finally invalided, 159 were invalided on account of disease, including 14 the result of old injury as distinct from recent injury, and of the 15 airmen invalided from the service on account of recent injury, 8 were invalided as the result of motor cycle accidents. In all the eight accidents the airmen were riding the motor cycles.

Deaths

16. Table I, page viii, records the number of deaths which occurred and the incidences of deaths per 1,000 of strength by geographical areas, by the force abroad and the total force, for 1933 and the two preceding periods. Table II, page 23, analyses deaths by groups of disease and injury, recording for each group

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the percentage of the total deaths during 1933 and the two preceding periods. Table XII, page 34, shows the number of deaths by disease and injury causes for the total force in 1933 only, divided further into those occurring in the force at home and in the force abroad. Deaths occurring among Fleet Air Arm personnel are considered in para. 12 of this Chapter.

17. (i) During 1933, the same number of deaths occurred as in 1932, one hundred and fifteen, representing an incidence of 3·7 per 1,000 of strength, compared with 3·6 in 1932 and average incidences of 4·1 and 4·4 per 1,000 for the two preceding periods.

(ii) Thirty-two deaths out of the total of 115 occurred as a result of disease as distinct from injury. This number represents 27·8 per cent. of the total deaths and compares with 29·6 per cent. in 1932 and average percentages of 30·2 and 29·6 for the two preceding periods. The 83 deaths due to injury represent a percentage of 72·2 of the total deaths which compares with 70·4 per cent. in 1932 and average percentages of 69·8 and 70·4 for the two preceding periods.

18. The causes of the 32 deaths which occurred as the result of disease were as follows :—

Pneumonia	5
Syncope	4
Tuberculosis, pulmonary	2
Tuberculosis of the spine	1
Carcinoma	1
Sarcoma	1
Cholecystitis	1
Acute intestinal obstruction	1
Perforated duodenal ulcer	1
Acute rheumatism	1
Mitral stenosis	1
Auricular fibrillation	1
Exophthalmic goitre	1
Acute meningitis	1
Acute polio-encephalitis	1
Cerebral haemorrhage	1
Acute ascending paralysis	1
Acute sinusitis	1
Septicaemia	1
Diabetis mellitus	1
Pulmonary oedoema	1
Empyema	1
Interstitial nephritis	1
Acute corrosive poisoning	1

Pneumonia, as in 1932, was one of the chief individual causes of death among diseases as distinct from injury.

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19. (i) The one hundred and fifteen deaths occurred among the following personnel at home and abroad.

	Home.	*Abroad.*	*Total.*
Officers	25	11	36
Flight cadets	1	—	1
Aircraft apprentices ..	5	—	5
Other airmen	48	25	73
Total	79	36	115

Four of the aircraft apprentices were stationed at Halton and one at Cranwell.

(ii) At home, 79 deaths occurred, representing an incidence of 3·6, compared with 80 deaths and an incidence of 3·5 per 1,000 in 1932 and average incidences of 3·7 and 3·2 for the two preceding periods.

(iii) Abroad, the number of deaths and the incidence per 1,000 of strength was 36 and 4·0 in 1933, compared with the same incidence of 4·0 in 1932 and average incidences of 5·1 and 7·3 per 1,000 for the two preceding periods. Considering the death incidence by geographical areas abroad, the increase of the incidence in India to 7·6 per 1,000 in 1933, from 3·4 has to be noted and compared with the incidence of 4·0 per 1,000 for the force abroad. There was no marked variation in the death incidence for the other geographical areas, comparing 1933 with 1932.

20. (i) Of the thirty-six officers who died, five died on account of disease and the remaining thirty-one, representing 86 per cent. of the officer deaths, on account of injuries received, as compared with 76 per cent. in 1932.

(ii) Of the five officers who died as the result of disease, 4 died at home and one abroad. None of the officers who died at home had been invalided from abroad to the United Kingdom.

(iii) Of the thirty-one officers who died as a result of injury, 21 died at home and 10 abroad. Eighteen deaths at home and eight abroad were due to flying accidents on duty, representing 72 per cent. of the officer deaths and 23 per cent. of the total deaths. The causes of the remaining five deaths due to injury among officers were two motor vehicle accidents, one at home and one abroad, one motor cycle accident at home, one suicide at home and one as a result of injuries received from a bison on a shooting expedition. One of these five deaths occurred on duty.

21. The one flight cadet died as the result of a flying accident on duty.

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22. The deaths of the five aircraft apprentices resulted from disease as follows :—

Halton.		Cranwell.	
Acute sinusitis ..	1	Acute ascending paralysis	1
Acute intestinal obstruction ..	1		
Acute rheumatism	1		
Tuberculosis of the spine	1		

23. (i) Of the 73 deaths which occurred among airmen other than aircraft apprentices, twenty-two were the result of disease and fifty-one on account of injury. Injury was thus responsible for 65·4 per cent. of the deaths among all airmen. Of the twenty-two deaths from disease, 13 occurred at home and 9 abroad, while 35 of the 51 deaths resulting from injury occurred at home and the remaining 16 abroad.

(ii) Of the 51 deaths from injury, 21 (12 at home and 9 abroad), were due to flying accidents, representing 41 per cent. of the deaths due to injury among airmen. All the airmen were on duty at the time of the accidents. Of the remaining 30 deaths due to injury among airmen, eleven, all at home and occurring off duty, were the result of motor cycle accidents, five, all occurring off duty, were due to motor car accidents, four were cases of suicide, one as the result of a fall, one knocked off his bicycle by a civilian lorry, one in a pedal cycle accident, two by drowning, one as the result of injuries received while boxing, one murdered by gun shot wound, and three from heat exhaustion, two in Iraq and one in India, which are included under this heading of injuries. The large number of deaths resulting from motor car and cycle accidents, representing 31 per cent. of the total deaths from injury among airmen, is to be noted. This percentage compares with 39 per cent. in 1932, and it is at least satisfactory to note that there has been a decrease as represented by a percentage of the total deaths from injuries among airmen.

Pulmonary Tuberculosis

24. (i) Table IV, page 25, analyses fresh cases of pulmonary tuberculosis which arose during 1933, by age and trade groups, by length of service and by type of unit.

(ii) Thirty-five fresh cases of pulmonary tuberculosis were recorded in 1933, compared with 39 in 1932, 23 in 1931 and 25 in 1930, representing incidences per 1,000 of strength of 1·1 in 1933, 1·2 in 1932, 0·7 in 1931 and 0·8 in 1930.

(iii) Of the 35 cases in 1933, 18 occurred at home, and 17 abroad, and the respective incidences per 1,000 were 0·8 at home and 1·9 abroad. There were no deaths at home, but of the seventeen cases abroad two died, and the remaining 15 were invalided to the United Kingdom.

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(iv) The 18 fresh cases at home were two officers, one aircraft apprentice stationed at Halton and 15 other airmen, while the 17 cases occurring abroad were airmen.

(v) No conclusion can as yet be drawn from the incidences of pulmonary tuberculosis by age groups, trade groups, length of service and type of unit as the number of cases is so small. The figures may be of value later when it will be possible to combine and analyse the incidences over a large number of years.

25. In addition to the 35 fresh cases, there were 10 cases of pulmonary tuberculosis diagnosed previous to 1933 which came under treatment in that year. Of the 35 fresh cases, 25 were invalided from the service, two died and eight were remaining under treatment at the end of 1933. All the ten cases remaining under treatment from 1932 were invalided from the Service during 1933, making a total of 35 final invalids from this disease during the year. Of these 35 invalids, 20 were serving at home and fifteen abroad at the date when the disease was first diagnosed.

26. (i) In only two of the 35 fresh cases was there a definite family history of pulmonary tuberculosis ; 18 had suffered from previous illnesses which might be considered as likely precursors of pulmonary tuberculosis. Of the 18 cases which occurred at home, eight had served abroad in tropical or semi-tropical countries and none of these showed a previous history of tropical disease. Of the 17 cases serving abroad, only one had a history of tropical disease—sandfly fever.

(ii) The tubercle bacillus was found in the sputum of 32 out of the 35 fresh cases, while the first radiological examination made was diagnostic of pulmonary tuberculosis in 30 of the cases.

Venereal Disease

27. (i) Table VI, page 27, analyses the incidence of the various forms of venereal disease at home and abroad, and for the total force during 1933. This table also records the incidences for total venereal disease for each year from 1921.

(ii) The incidence of venereal disease in 1933 is practically the same as for 1932—11·5 compared with 11·3 per 1,000 respectively. As the incidence for 1932 was the lowest yet recorded, the maintenance of this low incidence in 1933 is very gratifying. The incidence at home of all types was 7·2 in 1933, compared with 7·3 per 1,000 in 1932, and abroad the incidence was 21·9 in 1933, compared with 21·6 per 1,000 in 1932. This marked difference in the incidences at home and abroad has been noted in all years from 1921. For the total force, the incidence of gonorrhoea and syphilis was almost the same in 1933 as during 1932, but there was a rise in the case incidence of soft chancre to 1·5 per 1,000 in 1933 from 1·0 in 1932. There were increases in the incidences of fresh cases of gonorrhoea and syphilis, comparing 1933 with 1932, of 0·2 per 1,000 for both diseases. With the fall in the case incidence at home in 1933 and 1932 compared with previous

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years the number of sick daily has also fallen; it was 27·2 in 1933 and 28·7 in 1932. Abroad, the constantly sick figure was 29·8 in 1933 compared with 31·2 in 1932, and for the total force 57·0 in 1933 compared with 59·9 in 1932. There is very little variation comparing 1933 with 1932 in the average duration of each case for the total force or for the force at home. Abroad the average duration decreased somewhat in 1933. The progressive rise, noted in 1932, would appear to be checked.

(iii) To emphasize the extent of non-effectiveness caused by venereal disease the following figures record the number of days' sickness per head from this group of disease at home, in the geographical areas abroad and for the total force. The figures for 1932, 1931 and 1930 are shown for comparison.

	Average No. of days' sickness per head.			
	1933.	1932.	1931.	1930.
Home	0·5	0·5	0·7	0·8
India	0·6	0·4	0·8	0·6
Mediterranean Littoral	1·2	1·2	1·3	0·8
Iraq	1·1	1·3	1·7	2·3
Total Force	0·7	0·7	0·9	0·9

Age Groups

28. Table V, page 26, analyses sickness incidence, sub-divided into disease and injury, in the total force, in the force at home and abroad, by age groups in the case of airmen, and by officers and cadets. The youngest group of airmen—under 18 group, are apprentices and serve at home only, while very few, 29 in 1933, of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group as their duties are somewhat similar, and, if divided into age groups, the number in each group would be too small to have statistical value compared with the airmen age groups.

29. (i) Analysing all disabilities, for all units, the incidence of the airmen group is smaller at 446·0 per 1,000 than the officers and cadets group at 503·9 per 1,000. This difference in incidence is accounted for, chiefly by the incidence of disease being higher at 419·8 per 1,000 for the officers and cadets group than in the airmen group at 365·4 per 1,000. There is not much difference in the incidence of injury comparing the officers and cadets group with the airmen group the former being higher at 84·1 against 80·6 per 1,000 for the airmen group. This is in marked contrast in comparing the analogous incidences for the year 1932.

(ii) In analysing the incidence of all disabilities among the age groups of airmen, it is observed that the highest incidence is recorded among the younger age groups, and the three lowest incidences in the three oldest age groups. The same facts are noted as regards the incidences for units at home, while the incidence of all disabilities abroad is lowest in the two oldest age

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groups. It is also noted that for both disease and injury at home and also abroad, the lowest incidences are recorded in the two oldest age groups. Thus it can be deduced that in 1933, airmen over 30 years of age were definitely healthier compared with their younger comrades.

(iii) Comparing 1933 with 1932, the disease incidence for each group at home shows an appreciable increase notably in the airmen age groups under 18, and 26 and 27 and in the officers and cadets group. Abroad, the airmen age groups, 22 and 23, and 26 and 27, show increases of incidence of disease of about 50 per 1,000 comparing 1933 with 1932; the officer group shows an increase of 130 per 1,000 and the airman group 28 and 29 an increase of 120 per 1,000. The only group abroad to show a slight decrease in 1933 is the airmen group, 24 and 25. Comparing the force at home and abroad, it is observed that the incidence of disease in all age groups of airmen and for the officers and cadets group is lower at home than abroad; this fact is also noted in all except two of the airman age groups for the incidence of injury. In 1933 the injury incidence for all units in the airmen age groups increases at first and then falls progressively as the airmen become older. This fact was also noted in 1932. Ages 18 to 21 appear to be the most dangerous for airmen as far as being involved in accidents causing injury are concerned. Comparing 1933 with 1932, the injury incidence at home in airmen groups, under 18, and 18 and 19, show increases in 1933, while the officers and cadets group shows a decreased incidence. Abroad, the only comment is the variation in the peak of the injury incidence from the age group, 24 and 25, in 1932 to, 26 and 27, in 1933.

Types of Unit

30. In table VIII, page 30, is analysed the incidence of sickness, subdivided into disease and injury in the total force, and in the force at home and abroad, by different types of unit. The units are so grouped as to include in each group units with more or less similar functions.

31. (i) During 1933, the total sickness incidence was lowest in flying units at 404·6, compared with an incidence of 452·4 per 1,000 for all units. Flying units showed this distinction in 1932 and 1931. Comparing 1933 with 1932, the incidence of disease was increased both at home and abroad. It might perhaps be expected that the incidence of injury would be highest in flying units, but it will be noted that this incidence at 84·0 per 1,000 is less than the injury incidence for depots at 86·3 per 1,000, and compares with an incidence of 81·0 per 1,000 for all units. The incidence of deaths, as expected, is highest in flying units, 5·1 per 1,000, and is chiefly due to injury causes with an incidence of 4·5, compared with 0·6 per 1,000 for disease. The incidence of invalidings from the service is highest in miscellaneous units at 7·1, compared with 6·1 per 1,000 for all units. The average duration of each case in days shows no variation comparing the

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different types of units. Consequent upon the lowest incidence of total sickness being recorded in flying units, the average number of sick daily is lowest in that group of units.

(ii) Comparing the incidences in the types of units at home, the total sickness incidence is lowest in flying units at 339·7 per 1,000, compared with 450·6 and 540·0 per 1,000 for miscellaneous units and depots respectively. The incidence of disease shows the same order with 260·0 for flying units, 380·0 for miscellaneous units and 443·7 per 1,000 for depots. Depots also record the highest injury incidence at 90·3, compared with 79·7 for flying units and 70·6 per 1,000 for miscellaneous units. The high injury incidence at depots was not expected, as the incidence of 90·3 in 1933, compares with incidences of 80·0 in 1932 and 71·9 per 1,000 in 1931. The fact that depots show the highest injury incidence for the three groups is not due to a marked lower injury incidence at flying units as the injury incidence of 79·7 in 1933 at flying units compares with an incidence of 81·1 per 1,000 in 1932. The death incidence at home was 4·8 in flying units compared with 2·6 and 2·0 per 1,000 in miscellaneous units and depots respectively. The incidence of 4·8 in flying units is mainly due to the death incidence on account of injuries at 4·2 per 1,000. This death incidence due to injuries of 4·2 for flying units compares with 0·4 at depots and 1·2 per 1,000 at miscellaneous units.

(iii) Abroad, the total sickness incidence was lowest at miscellaneous units with 475·9 per 1,000 and highest at flying units with 607·1 per 1,000. Of units abroad, flying units recorded both the highest disease and injury incidences of the different types of unit and also the highest death incidence, chiefly consisting of deaths from injury, and the highest incidence of invalidings from the service. The average duration of each case in days showed no variation comparing the different types of units.

(iv) Comparing the force at home and abroad, the disease incidence abroad in flying units is almost double that at home, and the injury incidence is also higher abroad than at home. In depôts, total sickness incidence was only 7·5 per 1,000 greater abroad than at home, although the disease incidence was 25·1 per 1,000 higher abroad than at home. In miscellaneous units, the total sickness incidence was 475·9 abroad, compared with 450·6 per 1,000 at home ; disease incidence was 408·0 and 380·0 per 1,000 abroad and at home respectively. There was very little variation in the injury incidence—70·6 at home, compared with 67·9 per 1,000 abroad.

Trade Groups

32. Table IX, page 31, analyses by trade groups the incidences of sickness, divided into injury and disease, and the latter further sub-divided into the groups of diseases which are usually the cause of the bulk of medical non-effectiveness. In 1933 there has been no change from 1932 in the trades forming the various trade groups, so that the incidences for these two years are strictly comparable.

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33. (i) In 1933, apprentices show the highest all disabilities incidence with 595·0 per 1,000, followed by drivers and open-air workers, and officers—airman pilots groups with 492·9 and 481·0 per 1,000 respectively. Apprentices in 1932 also recorded the highest all disabilities incidence. In 1933 this high incidence among apprentices is explained by the recording of the highest incidences among the trade groups for the following four groups of diseases out of the seven groups classified—upper air passage infections, 112·3 per 1,000, digestive diseases, 58·9 per 1,000, all other diseases, 240·8 per 1,000 and all injuries, 100·3 per 1,000. There was also a high incidence for influenza of 73·0 per 1,000, compared with 58·8 per 1,000 for the total force. This high all disabilities incidence among apprentices is more marked when the low venereal disease incidence of 0·5 per 1,000 is observed, compared with 11·5 per 1,000 for the total force. The lowest all disabilities incidence is recorded by workshop workers with 414·1, followed closely by " Other skilled trades " group with 414·9 and fitters with 416·2 per 1,000.

(ii) The very high incidence of 100·3 per 1,000 for all injuries in the apprentices group in 1933 compares with an incidence of 67·4 per 1,000 in 1932, an incidence which was among the lowest in that year. If further compared with the all injuries incidences of 43·8 and 54·5 per 1,000 for 1931 and 1930 respectively, the height of the incidence in 1933 is more marked. The next highest incidences for all injuries are in the fitters group with 94·6 per 1,000 and in the officers—airman pilots group with 83·1 per 1,000. The lower injuries incidence in the officers–airman pilots group compared with previous years is very gratifying. " Other skilled trades " group records the lowest all injuries incidence with 64·2 per 1,000 with clerks and office workers occupying the second lowest place with an incidence of 67·6 per 1,000. As in 1932, clerks and office workers showed one of the lowest injury incidences.

(iii) Apprentices record the highest all diseases incidence with 494·7 per 1,000, compared with a lowest incidence of 321·6 per 1,000 for the fitters group. Analysing the various disease groups, the increase in 1933 from 1932 in the incidence of influenza in all groups is noted. The highest incidence of influenza in the officers-airman pilots group of 87·4 per 1,000 compares with the lowest incidence for this disease of 34·9 per 1,000 among metal workers and an incidence of 58·8 per 1,000 for the total force. The highest incidence, 112·3 per 1,000, of upper air passage infections for the apprentices group is noted ; this is an appreciable increase over that for 1932, and compares with an incidence of 72·5 per 1,000 for the total force. As in former years, the low venereal disease incidences of the apprentices, and of the officers-airman pilots groups are noticeable. As in 1932, drivers and open-air workers show the highest incidence for venereal disease of 24·4 per 1,000, compared with 11·5 per 1,000 for the total force. For respiratory diseases, clerks and office workers show the highest incidence with 17·7 per 1,000, and workshop workers the lowest with 8·3 per

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1,000, which compare with 13·0 per 1,000 for the total force. In the digestive diseases group, the marked features are the low incidence of 29·8 per 1,000 recorded by fitters and the incidence of 58·9 per 1,000 for the apprentices group (a fairly large decrease on the incidence in 1932), which compare with an incidence of 38·8 per 1,000 for the total force in 1933.

Injuries

34. Table X, page 32, analyses injuries by cause, nature of injury, deaths from injury, and whether the injury or the death resulting from the injury occurred on or off duty, or from participation in games organized by the service. The organized games are shown under a separate heading for the first time, and are not included under the "on duty" heading as in previous years. Medical non-effectiveness due to heat exhaustion—10 cases, heat hyperpyrexia—5 cases, sunstroke—2 cases, the physical effects of heat, for example, sunburn—9 cases, and sickness due to the wearing of ill-fitting boots—5 cases, are not considered cases of injury for the purpose of this analysis.

35. (i) The number of cases of injuries of all types occurring during 1933 was 2,469, representing an incidence of 80 per 1,000 of strength, the same incidence as in 1932 and compared with 73 per 1,000 in both 1931 and 1930. There is little variation from year to year in the incidence of injury. 438 cases of injury occurred definitely on duty, and in addition there were 988 cases of injury due to participation in games and athletics organized by the service. Thus 58 per cent. of all accidents were due to these two classes of injury during 1933, compared with 56 in 1932, 60 in 1931, and 56 per cent. in 1930.

(ii) There were 80 deaths resulting from injury compared with 81 deaths in 1932. During 1933, 61 per cent. of the deaths occurred on duty, compared with 64 per cent. in 1932.

(iii) Fifteen cases were invalided from the service during 1933 on account of injuries, compared with 14 in 1932. Of the 15 invalidings, 5 were on duty at the time of the receipt of the injury, 9 were off duty, and one was taking part in games organized by the service.

(iv) As regards the site of the injuries, in 1933, as in the past five years, the lower extremity shows markedly the highest percentage of injuries—51 per cent., compared with 53 per cent. in 1932.

36. *Injuries sustained in flying accidents.*—(i) Table XI, page 33, analyses flying casualties on duty for the years 1930 to 1933 inclusive, to show the numbers killed and injured, divided into officers, cadets and airmen, and further to show the deaths as a percentage of the total flying casualties. The average duration of each case in days is also recorded.

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(ii) During 1933 there were 111 flying casualties, compared with 118 in 1932. Thus, during 1933, 4·5 per cent. of all injuries were due to flying accidents, compared with 4·9, 6·2 and 6·3 per cent. in 1932, 1931 and 1930 respectively. During 1933, the hours flown per flying accident resulting in death or injury were more than in any previous year. There were no flying casualties off duty during 1933.

(iii) There were 48 deaths due to flying accidents in 1933, compared with 46 in 1932. Thus, 43 per cent. of the total flying casualties in 1933 resulted in death, compared with 39, 46 and 47 per cent. in 1932, 1931 and 1930 respectively. As in 1932, 60 per cent. of the total deaths as a result of injury were due to flying accidents in 1933, compared with 73 per cent. in 1931 and 66 per cent. in 1930. During 1933, of the 48 deaths, 26 were officers, 1 was a flight cadet and 21 were airmen. All the officer casualties were of the general duties branch. Of the 21 airmen killed, seven were either qualified airman pilots or airmen under training as airman pilots.

(iv) There were no invalidings from the service as the result of injury received in flying accidents.

(v) The twenty-three officers injured as a result of flying accidents were all of the general duties branch. Four flight cadets were injured in flying accidents during the year, and 36 airmen, of whom five were either airman pilots or airman pilots under training.

(vi) Excluding cases which resulted in death, the average duration of each case was 45 days in hospital or sick quarters in 1933, compared with 39, 46 and 58 days in 1932, 1931 and 1930 respectively.

37. *Injuries caused by airscrews.*—During 1933, there were 13 cases, all on duty, of injuries caused by airscrews, compared with 15, 24 and 26 cases in 1932, 1931 and 1930 respectively. There were no deaths or invalids. Eleven of the 13 cases received the injuries whilst handling the airscrew, one slipped and received an injury to his knee, while the remaining one, a passenger, in repeating a pilot's signal received injuries to his left hand.

38. *Injuries sustained while starting motor engines.*—23 cases of injury from this cause occurred during 1933, compared with 27 in 1932, 24 in 1931 and 25 in 1930. There were no deaths or invalidings. 19 of the cases occurred on duty. These cases exclude those referred to in the previous paragraph.

39. *Injuries the result of motor accidents.*—(i) During 1933, there were 448 cases of injury resulting from motor accidents, compared with 468 in 1932, 410 in 1931 and 461 in 1930. In 1933, the percentage of injuries due to this cause of the total injuries was 18 per cent., the same percentage as in 1932. It is thus seen that a very heavy wastage of personnel results from injuries as the result of motor accidents. Of the 448 cases, only seventeen

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occurred on duty. There were 20 deaths, of which only one occurred on duty, and nine were invalided from the service. One of the invalids was on duty when the accident occurred. The number of deaths and invalidings from the service as a result of injuries received in motor accidents for the years 1930 to 1933 inclusive were as follows :—

	1930.	1931.	1932.	1933.
Deaths	20	20	21	20
Invalids	10	12	12	9

(ii) Injuries resulting from motor accidents are further analysed by the four following groups :—

(*a*) *Motor cycles—occupants.*—During 1933, 333 cases, or approximately 74 per cent. of all motor accidents resulting in injury and 13·5 per cent. of all injuries, occurred to occupants of motor cycles. These percentages compare with 75 and 14 per cent. respectively in 1932. Of the 333 cases only one was on duty. Twelve deaths, all occurring off duty, resulted, and there were eight invalidings of whom one was on duty. It will be seen that each year there is a very great wastage of personnel on account of this cause, which unfortunately is outside the power of the medical authorities to prevent.

(*b*) *Motor cars—occupants.*—During 1933, 68 cases of injury due to this cause occurred, compared with 81 in 1932. One case only was on duty when injured. There were 3 deaths, all off duty, and no invalidings.

(*c*) *Lorries or tenders—occupants.*—Out of a total of 14 cases injured owing to this cause in 1933, eleven were on duty. This number compares with 10 cases in 1932. One death on duty resulted, but there were no invalids.

(*d*) *Motor vehicles, all types—non-occupants.*—There were 33 persons who were non-occupants of the vehicles injured by motor vehicles in 1933, compared with 23 cases in 1932. Four of the cases were on duty. Four deaths and one invaliding, all off-duty cases, resulted. Royal Air Force transport was involved in one case, civil transport in 30 cases, including the 4 deaths and the invaliding, and in 2 cases, the nature of the transport was not stated.

40. *Injuries sustained in athletics, games and physical recreation.*—In table X the numbers relating to this cause of injury are divided for the first time into off-duty cases, and cases in which the game or recreation has been organized by the service. In previous reports, these latter cases were shown under the heading of " on duty." During 1933, 1,214 cases of injuries were sustained in athletics, games and physical recreation, an incidence of 39 per 1,000 of strength, compared with 1,189, 1,089 and 983 cases and incidences of 37, 34 and 31 per 1,000 in 1932, 1931 and 1930 respectively. There was 1 death in an organized game and one

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death off duty, and one invaliding as a result of injuries received in an organized game. Of the 1,214 cases, 988 or 40 per cent. of the total injuries and 81 per cent. of injuries received in games, occurred in organized games. As in previous years, football was responsible for the majority of the cases, 847 cases, or 70 per cent., compared with 855 and 72 per cent. in 1932. The commonest injuries received playing football were synovitis of knee, 147 cases, and sprained ankle, 141 cases. These two injuries in previous years were also the commonest form of injury received playing football. Although the number of injuries received in games is high, their value in the maintenance of fitness, efficiency and contentment of personnel cannot be assessed in figures. The continued progressive decrease in the incidence of venereal disease may also partly be explained by the leisure time of personnel being taken up by participation in games.

41. *Wounds in action.*—Compared with 4 cases of injury due to wounds in action in 1932, there were no cases of injury in 1933.

42. *Accidental gunshot wounds.*—Two cases, compared with 10 cases in 1932, occurred in 1933. One case was on duty and was invalided. There were no deaths.

43. *Injuries the result of voluntary parachute descents.*—There were two cases of injury due to this cause, compared with 7 cases in 1932. There were no deaths or invalidings. Injuries received in emergency parachute descents are classified as flying accidents, and are included in the figures in para. 36.

44. *Injuries sustained in workshops.*—During 1933, 30 cases of injury on account of this cause were reported compared with 35 cases in 1932. There were no deaths or invalidings.

45. *Other causes of injury.*—626 cases of injury occurred in 1933, which it was not possible to classify under any of the preceding headings, compared with 650 cases in 1932. Of the 626 cases, 245 occurred on duty, 320 off duty, and in 61 cases it was not stated whether the personnel was on or off duty. Of the 245 cases on duty, 3 were invalided, and one case of the 320 off duty was also invalided. Ten deaths, all off-duty cases, occurred as the result of injuries received. There were 2 cases of suicide, and death also occurred as the result of the 3 cases of self-inflicted wounds.

Nosological Tables

46. The chief nosological table is found on page 34, and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad, and in the total force. The diseases and injuries, marked with an asterisk in table XII, have been found in the past to be the main causes of medical non-effectiveness in the Royal Air Force. These diseases are further analysed in table VII, page 28, by geographical areas and by the total force. Table VII also indicates the relative incidence of tropical diseases

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in areas abroad. The disease heading " no appreciable disease " includes all cases, except mental and epileptic, which were admitted to hospital or sick quarters for observation, and in which no confirmation of disease or injury was made.

47. (i) The chief diseases and injuries causing medical non-effectiveness, with the average number of sick daily due to each cause, are shown below. The comparative figures for the years 1932, 1931 and 1930 are also shown.

	Average number of sick daily.			
	1933.	1932.	1931.	1930.
Injuries	133·0	144·6	135·3	140·8
Gonorrhoea	47·6	51·3	62·2	64·7
Influenza	37·9	19·8	26·0	7·4
Tonsillitis, acute	23·7	22·2	22·4	30·1
Upper air passage infections (excluding tonsillitis) ..	21·6	21·0	28·9	17·5
Inflammation of areolar tissue (includes abscess, boils, carbuncle, cellulitis)	21·3	21·1	21·7	24·2
Appendicitis	18·2	21·1	23·3	21·0
Malaria	17·0	10·5	13·5	18·1
Diseases of joints ..	10·3	11·3	10·8	11·6
Venereal disease (excluding gonorrhoea)	9·4	8·6	14·5	16·0
Urethritis (non-venereal) ..	9·3	9·1	10·3	10·4
Tuberculosis (all forms) ..	9·1	8·5	5·5	6·7
Sandfly fever	8·3	9·0	9·2	8·6
Bronchitis	7·8	8·7	9·6	7·3
Tinea cruris	7·6	3·7	4·5	3·9
Hypertrophy of tonsils ..	7·1	7·7	9·8	10·0
Enteritis acute, and gastro-enteritis	7·0	7·0	5·6	7·3
Impetigo contagiosa ..	6·7	8·2	10·1	11·0

(ii) During 1933 injuries, gonorrhoea and influenza were the chief causes of sickness. The decrease in the average number of sick daily on account of gonorrhoea has continued the progressive decrease observed since the year 1930. The number constantly sick on account of influenza has almost doubled in 1933 compared with 1932, but the incidence of this disease varies from year to year. There is no marked increase or decrease in the average number of sick daily for any of the other diseases reviewed except that the increase for malaria from 10·5 in 1932 to 17·0 in 1933 and for tinea cruris from 3·7 in 1932 to 7·6 in 1933 are noted. The progressive decrease in impetigo contagiosa from 11·0 in 1930 to 6·7 in 1933 is also noted.

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48. (i) The following table compares the medical non-effectiveness in the various geographical areas by showing the average number of days' sickness per head, comparing 1933 with 1932.

	Average Number of Days' Sickness per Head (including cases of less than 48 hours' duration).	
	1933.	1932.
United Kingdom	6·8	6·8
Mediterranean Littoral ..	8·4	8·0
India	8·8	8·2
Iraq	13·6	12·0

In the years reviewed Iraq appears to be the most unhealthy area and the United Kingdom the most healthy.

(ii) Venereal disease as a cause of medical non-effectiveness in the various geographical areas is commented upon in para. 27, page 12, of this chapter.

49. (i) The following table records the chief causes of medical non-effectiveness by showing the average number of sick daily in the force at home and abroad.

	Average number of sick daily (excluding cases of less than 48 hours' duration).	
	Home.	*Abroad.*
Injuries	99·5	33·5
Influenza	33·6	4·2
Gonorrhoea	24·9	22·7
Tonsillitis, acute	17·0	6·7
Upper air passage infections (excluding tonsillitis) ..	16·1	5·5
Appendicitis	13·3	4·9
Malaria	1·6	15·4
Sandfly fever	—	8·3
Venereal disease (excluding gonorrhoea)	2·3	7·1

The features of this analysis are the difference in the average number of sick at home and abroad on account of injuries, influenza, tonsillitis, upper air passage infections, appendicitis and venereal disease (excluding gonorrhoea). The difference in the figures as regards malaria and sandfly fever is explained by the fact that these diseases are endemic to tropical and semi-tropical areas.

(ii) At home, the principal causes of medical non-effectiveness, as shown by the average number of sick daily, were injuries with 99·5, influenza with 33·6 and gonorrhoea with 24·9 sick per day. It is also worthy of mention that not a single case of enteric group disease and only one case of dysentery occurred at home during 1933.

(iii) Abroad, the chief causes of medical non-effectiveness were, injuries with 33·5, gonorrhoea with 22·7 and malaria with 15·4 constantly sick daily. The low incidences of dysentery, 6·7 per 1,000, and of the enteric group diseases, 1·1 per 1,000, are noted.

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TABLE II.—SICKNESS, DEATHS AND INVALIDS.

Disease group.	1933.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1933.	1927-32.	1921-26.	1933.	1927-32.	1921-26.	1933.	1927-32.	1921-26.
Dysentery	61	—	—	0·4	*0·6*	*1·4*	—	*0·1*	*0·4*	—	—	*0.2*
Enteric group ..	10	—	—	0·1	*0·2*	*0·2*	—	*2·1*	*2·3*	—	—	—
Influenza	1,816	—	—	13·0	*6·5*	*5·8*	—	*0·3*	*0·1*	—	—	—
Malaria	456	—	—	3·3	*4·6*	*7·2*	—	*0·9*	*1·0*	—	*0·1*	*0·2*
Pneumonia ..	51	5	—	0·4	*0·4*	*0·5*	4·3	*3·0*	*4·8*	—	*0·1*	—
Pyrexia of unknown origin	27	—	—	0·2	*0·3*	*0·6*	—	—	*0·1*	—	—	—
Sandfly fever ..	360	—	—	2·6	*3·6*	*7·1*	—	—	—	—	—	—
Tuberculosis ..	41	3	38	0·3	*0·3*	*0·4*	2·6	*3·4*	*3·4*	20·2	*13·1*	*13·8*
Venereal diseases ..	355	—	—	2·5	*3·6*	*5·2*	—	—	—	—	*0·4*	*0·9*
Pyæmia and septicæmia	3	1	—	0·0	*0·0*	*0·0*	0·9	*2·1*	*2·1*	—	—	—
Other diseases due to infection	3,707	3	8	26·5	*29·1*	*25·8*	2·6	*3·3*	*1·6*	4·3	*3·9*	*1·8*
Contacts and carriers	73	—	—	0·5	*0·7*	*0·3*	—	—	—	—	*0·2*	*0·1*
Nervous system and brain	203	2	66	1·5	*1·7*	*1·9*	1·7	*2·1*	*2·1*	35·1	*26·9*	*24·6*
Eye	156	—	15	1·1	*1·1*	*1·1*	—	—	—	8·0	*7·4*	*8·1*
Ear and nose ..	414	1	5	3·0	*2·3*	*1·8*	0·9	*0·3*	—	2·7	*6·0*	*11·8*
Circulatory system	115	6	4	0·8	*1·0*	*1·2*	5·2	*2·9*	*2·6*	2·1	*10·2*	*7·6*
Lymphatic system..	12	1	1	0·1	*0·1*	*0·1*	0·9	*0·3*	*0·1*	0·5	*1·4*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	400	2	5	2·9	*3·1*	*2·9*	1·7	*0·5*	*1·0*	2·7	*4·2*	*4·2*
Teeth and gums ..	93	—	—	0·7	*0·6*	*0·6*	—	—	—	—	*0·1*	*0·2*
Digestive system ..	1,198	3	11	8·5	*9·5*	*7·6*	2·6	*4·3*	*5·2*	5·8	*3·5*	*3·6*
Disorders of nutrition and metabolism	14	1	2	0·1	*0·1*	*0·0*	0·9	—	*0·2*	1·1	*1·1*	*0·6*
Generative system..	254	—	1	1·8	*2·0*	*1·7*	—	—	—	0·5	*0·2*	*0·2*
Organs of locomotion	374	—	11	2·7	*2·8*	*2·9*	—	—	—	5·8	*8·3*	*11·2*
Areolar tissue and skin	850	—	2	6·1	*5·8*	*6·4*	—	*0·1*	—	1·1	*1·0*	*1·1*
Urinary organs ..	138	1	3	1·0	*0·8*	*0·5*	0·9	*0·8*	*0·6*	1·6	*2·4*	*2·9*
Tumours and cysts	65	2	1	0·5	*0·4*	*0·6*	1·7	*2·0*	*1·2*	0·5	*0·9*	*0·4*
Poisons	49	1	—	0·3	*0·3*	*0·3*	0·9	*1·6*	*0·8*	—	—	*0·1*
Debility	31	—	—	0·2	*0·2*	*0·5*	—	—	—	—	—	*0·3*
Other diseases ..	140	—	—	1·0	*0·7*	*0·8*	—	*0·1*	—	—	*0·2*	*0·1*
Total: all diseases	11,466	32	173	82·1	*82·4*	*85·4*	27·8	*30·2*	*29·6*	92·0	*91·6*	*95·0*
Total: all injuries	2,500	83	15	17·9	*17·6*	*14·6*	72·2	*69·8*	*70·4*	8·0	*8·4*	*5·0*
Total: all disabilities	13,966	115	188	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total force.			Home.			Abroad.			Total force.		
	1933.	Average 1927–32.	Average 1921–26.	1933.	Average 1927–32.	Average 1921–26.	1933.	Average 1927–32.	Average 1921–26.	1933.	Average 1927–32.	Average 1921–26.	1933.	Average 1927–32.	Average 1921–26.	1933.	Average 1927–32.	Average 1921–26.
Diseases caused by infection ..	195·4	163·0	175·1	290·4	343·4	467·6	223·1	212·6	255·9	11	15	17	15	15	16	13	15	16
Contacts and carriers	2·1	3·6	1·7	2·9	0·8	0·8	2·4	2·9	1·5	12	17	11	9	20	18	11	18	12
Effects of parasites	1·1	1·0	0·5	2·3	2·6	2·4	1·5	1·4	1·1	16	22	10	16	26	22	16	24	18
Diseases of nervous system and brain	5·9	6·5	8·1	8·2	9·6	12·0	6·6	7·3	9·1	33	37	32	42	46	55	36	40	40
Diseases of the eye	4·8	4·7	4·9	5·8	5·2	5·5	5·1	4·8	5·1	18	20	18	31	22	32	23	21	23
Diseases of the ear and nose ..	11·1	7·7	7·9	19·0	15·1	10·6	13·4	9·7	8·6	19	21	21	18	16	25	19	18	22
Diseases of the circulatory system	3·8	4·1	4·3	3·6	4·6	9·1	3·7	4·2	5·6	20	38	26	41	35	46	25	37	35
Diseases of the lymphatic and ductless glands	0·3	0·4	0·3	0·6	0·4	0·3	0·4	0·4	0·3	29	50	40	49	57	48	37	51	42
Diseases of the respiratory system	10·8	12·0	12·8	18·1	16·3	15·6	13·0	13·2	13·6	16	20	17	17	17	20	16	19	18
Diseases of the teeth and gums ..	3·1	2·8	2·8	2·8	2·7	3·2	3·0	2·7	2·9	14	11	9	12	11	11	13	11	10
Diseases of the digestive system	36·0	40·0	30·0	45·7	44·4	50·9	38·8	41·2	35·8	19	21	21	20	19	18	19	21	20
Diseases due to disorders of nutrition or metabolism	0·5	0·3	0·2	0·4	0·2	0·2	0·5	0·3	0·2	24	31	29	52	65	41	32	37	32
Diseases of the generative system	6·5	7·4	6·5	12·5	11·8	11·8	8·2	8·6	7·9	24	28	20	24	21	21	24	25	20
Diseases of the organs of locomotion	11·1	11·8	13·0	14·7	13·5	15·7	12·1	12·3	13·8	22	25	18	19	21	20	21	24	19
Diseases of the areolar tissue and skin	28·1	26·0	32·9	26·1	21·9	23·5	27·5	24·9	30·3	15	18	16	14	16	17	15	18	16
Diseases of the urinary organs ..	4·1	2·9	2·2	5·4	5·1	3·5	4·5	3·5	2·6	35	33	30	29	35	42	33	34	35
Tumours and cysts	2·1	2·0	2·6	2·0	1·8	2·7	2·1	1·9	2·7	16	22	18	28	34	22	19	25	19
Poisons	0·6	0·5	0·9	4·0	4·1	3·6	1·6	1·5	1·6	15	11	7	9	11	13	10	11	11
All other diseases	4·2	2·4	4·0	3·9	3·2	8·0	4·1	2·7	5·1	8	11	12	11	12	21	9	11	16
Total, all diseases	331·6	299·2	310·7	468·4	506·7	647·0	371·4	356·3	403·7	15	18	18	17	17	18	15	18	18
General injuries	8·2	8·5	5·3	7·9	9·1	15·3	8·1	8·6	8·1	26	29	17	18	20	16	24	26	17
Local injuries	71·8	64·3	58·1	75·5	75·3	68·8	72·9	67·4	61·1	20	22	20	16	17	20	19	21	20
Total, all injuries	80·0	72·8	63·4	83·4	84·4	84·1	81·0	76·0	69·2	21	23	20	16	18	20	19	21	20
Total, all disabilities	411·6	372·0	374·1	551·8	591·2	731·0	452·4	432·3	472·9	16	19	18	17	17	18	16	18	18

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TABLE IV.—PULMONARY TUBERCULOSIS. 1933.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Type of unit.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	1	—	1	0·3	Officers, cadets and airman pilots.	2	0·5	Under 1 year ..	—	—	Flying units ..	22	1·4
20–24 ..	8	7	15	1·3	Apprentices ..	1	0·5				Depôts	6	0·8
25–29 ..	5	4	9	1·2	Aircrafthands ..	3	0·6	1 year and under 5 years.	11	1·0	Miscellaneous units	7	0·9
30–34 ..	1	3	4	1·0	Clerks and office workers.	8	2·3						
35–39 ..	2	3	5	2·3	Drivers and open air workers.	1	0·6	5 years and under 10 years.	11	1·1			
40–44 ..	1	—	1	0·9	Wireless operators, riggers and armourers.	2	1·0	10 years and over.	13	1·5			
45 and over..	—	—	—	—	Fitters	12	1·6						
					Workshop workers	2	0·6						
					Metal workers ..	1	1·4						
					Other skilled trades	3	1·7						
Total ..	18	17	35	1·1	Total	35	1·1	Total	35	1·1	Total	35	1·1

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TABLE V.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS. 1933.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen—												
Under 18	968	—	968	594·0	—	594·0	99·2	—	99·2	693·2	—	693·2
18 and 19	2,448	29	2,477	395·4	*	394·0	110·3	*	109·0	505·7	*	503·0
20 and 21	3,296	812	4,108	362·8	470·4	384·1	105·0	80·0	100·0	467·8	550·4	484·1
22 and 23	2,848	1,958	4,806	349·4	485·7	404·9	98·3	96·5	97·6	447·7	582·2	502·5
24 and 25	2,310	2,124	4,434	285·3	457·2	367·6	83·1	93·2	88·0	368·4	550·4	455·6
26 and 27	2,209	810	3,019	282·0	504·9	341·8	72·0	100·0	79·5	354·0	604·9	421·3
28 and 29	1,318	409	1,727	266·3	562·3	336·4	53·9	58·7	55·0	320·2	621·0	391·4
30 to 34	2,397	1,098	3,495	242·8	413·5	296·4	41·3	53·7	45·2	284·1	467·2	341·6
35 and over	1,637	738	2,375	229·1	386·2	277·9	28·1	46·0	33·7	257·2	432·2	311·6
Airmen—all ages	19,431	7,978	27,409	325·4	462·5	365·4	80·2	81·5	80·6	405·7	544·0	446·0
Officers and cadets—all ages..	2,443	1,016	3,459	380·3	514·8	419·8	78·2	98·4	84·1	458·5	613·2	503·9
All ranks—	21,874	8,994	30,868	331·6	468·4	371·5	80·0	83·4	81·0	411·6	551·8	452·5

* Not calculated.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
			Average.				Average.				Average.	
	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).
Gonorrhœa—acute ..	122	5·5	23·7	71	125	13·9	22·0	64	247	8·0	45·7	68
relapse ..	10	0·5	1·2	45	7	0·8	0·7	36	17	0·6	1·9	41
Total ..	132	6·0	24·9	69	132	14·7	22·7	63	264	8·6	47·6	66
Syphilis—admissions :												
Primary	14	0·6	1·5	39	24	2·7	2·6	40	38	1·2	4·1	39
Secondary	2	0·1	0·1	16	1	0·1	0·2	50	3	0·1	0·3	27
Tertiary	—	—	—	—	—	—	—	—	—	—	—	—
Congenital	—	—	—	—	—	—	—	—	—	—	—	—
For further treatment	4	0·2	0·4	40	1	0·1	0·0	12	5	0·2	0·4	34
Total	20	0·9	2·0	37	26	2·9	2·8	39	46	1·5	4·8	38
Soft chancre	6	0·3	0·3	18	39	4·3	4·3	40	45	1·5	4·6	37
All venereal diseases												
1933	158	7·2	27·2	63	197	21·9	29·8	55	355	11·5	57·0	59
1932	*169*	*7·3*	*28·7*	*62*	*191*	*21·6*	*31·2*	*60*	*360*	*11·3*	*59·9*	*61*
1931	*245*	*10·4*	*42·0*	*63*	*231*	*25·8*	*34·7*	*55*	*476*	*14·7*	*76·7*	*59*
1930	*293*	*12·7*	*50·6*	*63*	*224*	*25·4*	*30·2*	*49*	*517*	*16·1*	*80·6*	*57*
1929	*250*	*11·0*	*37·8*	*55*	*216*	*25·5*	*32·9*	*56*	*466*	*15·0*	*70·7*	*55*
1928	*302*	*13·5*	*44·6*	*54*	*254*	*31·3*	*34·4*	*50*	*556*	*18·2*	*79·0*	*52*
1927	*269*	*12·5*	*40·8*	*55*	*259*	*30·1*	*31·6*	*45*	*528*	*17·5*	*72·4*	*50*
1926	*357*	*14·9*	*59·5*	*61*	*208*	*23·0*	*31·8*	*56*	*565*	*17·1*	*91·3*	*59*
1925	*400*	*16·8*	*57·0*	*52*	*256*	*27·9*	*36·4*	*52*	*656*	*19·9*	*93·4*	*52*
1924	*432*	*19·2*	*59·3*	*50*	*272*	*30·0*	*44·0*	*59*	*704*	*22·3*	*103·3*	*54*
1923	*482*	*23·8*	*64·8*	*49*	*299*	*31·4*	*42·3*	*52*	*781*	*26·2*	*107·2*	*50*
1922	*525*	*24·9*	*76·1*	*53*	*263*	*33·5*	*34·4*	*48*	*788*	*27·2*	*110·5*	*51*
1921	*709*	*32·3*	*94·2*	*48*	*314*	*49·2*	*52·2*	*61*	*1,023*	*36·1*	*146·4*	*52*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 21,874. (Includes Fleet Air Arm at Home.)				Mediterranean Littoral. Average strength, 4,042.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily	Duration of case.			No. sick daily	Duration of case.
Diseases caused by Infection.				Days.				Days.
Dysentery—								
Clinical, primary ..	—	—	—	—	6	1·5	0·8	49
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	1	0·0	0·1	36	6	1·5	0·5	32
,, recurrent ..	—	—	—	—	1	0·2	0·1	26
Amœbic, primary ..	—	—	—	—	3	0·7	0·1	11
,, recurrent ..	—	—	—	—	1	0·2	0·1	21
Total—dysentery ..	1	0·0	0·1	36	17	4·2	1·6	34
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	—	—
Paratyphoid fever, A, B & C	—	—	—	—	—	—	0·1	—
Clinical enteric	—	—	—	—	—	—	—	—
Enteritis, acute	70	3·2	1·5	8	102	25·2	2·0	7
Influenza	1,637	74·8	33·6	8	48	11·9	0·9	7
Malaria—								
Clinical, primary	—	—	—	—	7	1·7	0·2	9
,, recurrent ..	2	0·1	0·2	30	3	0·7	0·1	8
Quartan, primary and recurrent.	—	—	—	—	—	—	—	—
Benign tertian, primary ..	2	0·1	0·2	34	80	19·8	2·3	10
,, ,, recurrent	15	0·7	1·2	29	37	9·2	1·0	10
Malignant tertian, primary	—	—	—	—	18	4·5	0·9	18
,, ,, recurrent	—	—	—	—	1	0·2	0·0	13
Total—malaria	19	0·9	1·6	30	146	36·1	4·5	11
Pyrexia of unknown origin ..	12	0·5	0·3	10	9	2·2	0·3	10
Sandfly fever	—	—	—	—	82	20·3	1·6	7
Tuberculosis	22	1·0	3·2	53	7	1·7	2·9	149
Upper air passage infections	1,599	73·1	33·0	8	282	69·8	5·0	6
Venereal disease	158	7·2	27·2	63	91	22·5	13·5	54
Other diseases caused by infection	757	34·6	33·4	16	221	54·7	9·7	16
All diseases caused by infection	4,275	195·4	133·9	11	1,005	248·6	41·9	15
All other diseases ..	2,978	136·1	155·3	19	625	154·6	32·3	19
All diseases	7,253	331·6	289·2	15	1,630	403·3	74·1	17
Injuries—								
General injuries	180	8·2	12·7	26	35	8·7	1·3	14
Local injuries	1,570	71·8	86·7	20	261	64·6	11·2	16
All injuries	1,750	80·0	99·5	21	296	73·2	12·5	15
All disabilities	9,003	411·6	388·7	16	1,926	476·5	86·6	16

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Diseases caused by Infection, 1933.

Iraq. Average strength, 2,017.				India. Average strength, 2,109.				Total Force. Average strength, 30,868.			
No. of cases	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case.			No. sick daily	Duration of case.			No. sick daily	Duration of case.
			Days.				Days.				Days.
1	0·5	0·0	17	7	3·3	0·3	17	14	0·5	1·2	31
—	—	—	—	—	—	—	—	—	—	—	—
9	4·5	1·0	41	19	9·0	1·0	19	36	1·2	2·7	28
—	—	—	—	1	0·5	0·0	13	2	0·1	0·1	20
5	2·5	0·3	22	—	—	—	—	8	0·3	0·4	18
—	—	—	—	—	—	—	—	1	0·0	0·1	21
15	7·4	1·4	33	27	12·8	1·4	19	61	2·0	4·5	27
1	0·5	0·4	132	—	—	—	—	2	0·1	0·5	96
3	1·5	0·4	44	—	—	—	—	4	0·1	0·6	53
1	0·5	0·1	45	3	1·4	0·8	93	4	0·1	0·9	81
101	50·1	2·3	8	32	15·2	0·9	10	313	10·1	7·0	8
70	34·7	2·2	11	34	16·1	0·8	9	1,816	58·8	37·9	8
5	2·5	0·2	18	15	7·1	0·5	13	28	0·9	1·0	13
3	1·5	0·3	37	3	1·4	0·1	7	11	0·4	0·6	20
1	0·5	0·0	10	—	—	—	—	2	0·1	0·0	9
32	15·9	1·6	19	118	56·0	4·0	12	235	7·6	8·2	13
10	5·0	0·4	17	52	24·7	1·7	12	114	3·7	4·4	14
1	0·5	0·1	39	38	18·0	1·5	14	58	1·9	2·5	16
—	—	—	—	7	3·3	0·3	15	8	0·3	0·3	15
52	25·8	2·8	19	233	110·5	8·0	13	456	14·8	17·0	14
4	2·0	0·1	7	1	0·5	0·1	42	27	0·9	0·8	11
202	100·1	5·2	9	75	35·6	1·5	7	360	11·7	8·3	8
8	4·0	1·6	74	2	0·9	1·1	202	41	1·3	9·1	81
184	91·2	4·0	8	134	63·5	2·4	6	2,238	72·5	45·2	7
31	15·4	6·1	72	25	11·9	3·6	53	355	11·5	57·0	59
116	57·5	5·2	16	86	40·8	3·8	16	1,210	39·2	53·4	16
788	390·7	31·7	15	652	309·2	24·4	14	6,887	223·1	242·1	13
447	221·6	30·9	25	365	173·1	16·5	17	4,579	148·3	244·3	19
1,235	612·3	62·6	19	1,017	482·2	40·9	15	11,466	371·4	486·3	15
12	5·9	1·0	31	18	8·5	0·7	13	251	8·1	16·2	24
185	91·7	9·5	19	172	81·6	6·5	14	2,249	72·9	116·9	19
197	97·7	10·6	20	190	90·1	7·1	14	2,500	81·0	133·0	19
1,432	710·0	73·2	19	1,207	572·3	48·0	15	13,966	452·4	619·4	16

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT. 1933.

Type of unit.	—	Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	260·0	0·6	4·8	10·3	15	509·6	0·5	5·7	23·6	17	320·6	0·6	5·0	13·5	15
	Injury	79·7	4·2	0·4	4·6	21	97·5	5·4	—	4·6	17	84·0	4·5	0·3	4·6	20
	Total	339·7	4·8	5·2	14·9	16	607·1	5·9	5·7	28·2	17	404·6	5·1	5·3	18·1	16
Depôts (store and repair), ground schools and armoured car companies	Disease	443·7	1·6	7·2	18·5	15	468·8	1·4	3·6	21·8	17	452·4	1·5	6·0	19·7	16
	Injury	90·3	0·4	0·6	5·0	20	78·7	1·1	0·4	3·7	17	86·3	0·6	0·5	4·5	19
	Total	540·0	2·0	7·8	23·5	16	547·5	2·5	4·0	25·5	17	538·7	2·1	6·5	24·2	16
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	380·0	1·4	7·7	14·4	14	408·0	1·6	3·6	19·5	17	389·1	1·4	6·3	16·1	15
	Injury	70·6	1·2	1·2	4·0	21	67·9	1·2	—	2·6	14	69·7	1·2	0·8	3·6	19
	Total	450·6	2·6	8·9	18·4	15	475·9	2·8	3·6	22·1	17	458·8	2·6	7·1	19·7	16
All units	Disease	331·6	1·0	6·1	13·2	15	468·4	1·1	4·5	22·0	17	371·4	1·0	5·6	15·7	15
	Injury	80·0	2·6	0·6	4·6	21	83·4	2·9	0·1	3·8	16	81·0	2·7	0·5	4·3	19
	Total	411·6	3·6	6·7	17·8	16	551·8	4·0	4·6	25·8	17	452·4	3·7	6·1	20·0	16

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS. 1933.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	87·4	72·1	7·2	14·1	42·9	174·3	397·9	83·1	481·0
Aircrafthands	75·3	76·5	13·2	14·8	44·8	183·4	407·9	70·0	477·9
Apprentices	73·0	112·3	0·5	9·1	58·9	240·8	494·7	100·3	595·0
Clerks and office workers ..	59·3	65·8	12·6	17·7	33·8	167·2	356·4	67·6	424·0
Drivers and open air workers	48·8	80·5	24·4	15·9	41·5	200·7	411·8	81·1	492·9
Fitters	45·9	73·0	8·8	9·5	29·8	154·5	321·6	94·6	416·2
Metal workers	34·9	64·2	16·7	13·9	37·7	199·4	366·8	69·7	436·5
Wireless operators, riggers, and armourers	43·5	54·7	16·1	17·6	38·1	192·1	362·2	77·2	439·4
Workshop workers	40·6	59·5	15·0	8·3	31·3	178·1	332·9	81·2	414·1
Other skilled trades.. ..	55·0	68·2	12·0	14·3	49·3	151·9	350·7	64·2	414·9
Total force	58·8	72·5	11·5	13·0	38·8	176·8	371·4	81·0	452·4

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TABLE X.—INJURIES. 1933.

—	Number of cases.							
	Airscrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	13	—	111	17	19	278	438	*18*
Organised games ..	—	988	—	—	—	—	988	*40*
Off duty	—	183	—	427	4	321	935	*38*
Not stated	—	43	—	4	—	61	108	*4*
Total	13	1,214	111	448	23	660	2,469	*100*
Nature of injury:								
General	1	7	72	113	—	32	225	*9*
Head or face ..	1	169	14	143	2	117	446	*18*
Trunk	1	83	9	19	2	40	154	*6*
Upper extremity .	8	177	4	48	16	142	395	*16*
Lower extremity .	2	778	12	125	3	329	1,249	*51*
Total	13	1,214	111	448	23	660	2,469	*100*
Deaths:								
On duty	—	—	48	1	—	—	49	*61*
Organised games	—	1	—	—	—	—	1	*1*
Off duty	—	1	—	19	—	10	30	*38*
Total	—	2	48	20	—	10	80	*100*

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TABLE XI.—FLYING CASUALTIES ON DUTY.

Rank.	Number of casualties.			
	1930.	1931.	1932.	1933.
Officers.				
Killed	*36* (*5*)	*40*	*29*	26
Injured	*41* (*1*)	*39*	*37*	23
Cadets.				
Killed	*3*	*3*	—	1
Injured	*1*	*2*	*1*	4
Airmen.				
Killed	*29* (*1*)	*25*	*17*	21
Injured	*34*	*38*	*34*	36
All ranks.				
Killed	*68* (*6*)	*68*	*46*	48
Injured	*76* (*1*)	*79*	*72*	63
Total casualties	*144* (*7*)	*147*	*118*	111
Deaths—as a percentage of total flying casualties ..	*47*	*46*	*39*	43
Average duration of each case (days) :—				
Deaths included	*31*	*25*	*24*	26
Deaths excluded	*58*	*46*	*39*	45

Note.—The numbers in brackets represent casualties in accidents to airships (6 deaths) or kite balloons (one injured). These are included in the totals.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933.

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases caused by infection.																			
Diphtheria	9	—	—	0·4	0·7	29	5	—	1	—	0·6	0·7	53	14	—	—	0·5	1·4	38
*Dysentery	1	—	—	0·0	0·1	36	60	—	2	—	6·7	4·4	27	61	—	—	2·0	4·5	27
*Enteric group	—	—	—	—	—	—	10	—	1	—	1·1	2·0	73	10	—	—	0·3	2·0	73
*Enteritis (acute) and gastro-enteritis (acute)	70	—	—	3·2	1·5	8	243	—	—	—	27·0	5·4	8	313	—	—	10·1	7·0	8
*Influenza (including influenzal pneumonia)	1,637	—	—	74·8	33·6	8	179	—	—	—	19·9	4·2	9	1,816	—	—	58·8	37·9	8
Leishmaniasis	1	—	—	0·0	0·4	141	2	—	—	—	0·2	0·1	24	3	—	—	0·1	0·5	63
*Malaria	19	—	—	0·9	1·6	30	437	—	1	—	48·6	15·4	13	456	—	—	14·8	17·0	14
Measles	14	—	—	0·6	0·7	19	4	—	—	—	0·4	0·2	19	18	—	—	0·6	0·9	19
Mumps	29	—	—	1·3	1·6	21	12	—	—	—	1·3	0·8	23	41	—	—	1·3	2·4	21
Pneumonia	36	2	—	1·6	3·8	38	15	3	2	—	1·7	2·0	50	51	5	—	1·7	5·8	42
*Pyrexia of unknown origin	12	—	—	0·5	0·3	10	15	—	—	—	1·7	0·5	12	27	—	—	0·9	0·8	11
Rheumatism (acute) ..	32	1	6	1·5	4·5	51	8	—	1	1	0·9	1·1	52	40	1	7	1·3	5·6	51
Rubella	59	—	—	2·7	2·4	15	5	—	—	—	0·6	0·1	10	64	—	—	2·1	2·6	15
*Sandfly fever	—	—	—	—	—	—	360	—	—	—	40·0	8·3	8	360	—	—	11·7	8·3	8
Scarlet fever	12	—	—	0·5	1·1	33	2	—	—	—	0·2	0·2	38	14	—	—	0·5	1·3	34
Smallpox	—	—	—	—	—	—	1	—	—	—	0·1	0·1	22	1	—	—	0·0	0·1	22
Tuberculosis.																			
Respiratory	18	—	20	0·8	2·1	44	17	2	15	15	1·9	4·5	97	35	2	35	1·1	6·7	70
Other	4	1	2	0·2	1·0	96	2	—	3	1	0·2	1·4	252	6	1	3	0·2	2·4	148
*TOTAL—TUBERCULOSIS	22	1	22	1·0	3·2	53	19	2	18	16	2·1	5·9	114	41	3	38	1·3	9·1	81

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Acute upper air passage infections.																			
Laryngitis	33	—	—	1·5	0·7	8	9	—	—	—	1·0	0·2	8	42	—	—	1·4	0·9	8
Pharyngitis and naso-pharyngitis	906	—	—	41·4	14·9	6	307	—	—	—	34·1	5·0	6	1,213	—	—	39·3	19·9	6
Rhinitis, acute catarrhal	22	—	—	1·0	0·5	8	24	—	—	—	2·7	0·3	5	46	—	—	1·5	0·8	6
Tonsillitis (including quinsy and Vincent's angina)	638	—	—	29·2	17·0	10	299	—	—	—	33·2	6·7	8	937	—	—	30·4	23·7	9
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	1,599	—	—	73·1	33·0	8	639	—	—	—	71·0	12·2	7	2,238	—	—	72·5	45·2	7
Vaccinia	79	—	—	3·6	1·6	7	—	—	—	—	—	—	—	79	—	—	2·6	1·6	7
Venereal disease.																			
Gonorrhœa	132	—	—	6·0	24·9	69	132	—	1	—	14·7	22·7	63	264	—	—	8·6	47·6	66
Syphilis	20	—	—	0·9	2·0	37	26	—	—	—	2·9	2·8	39	46	—	—	1·5	4·8	38
Soft chancre	6	—	—	0·3	0·3	18	39	—	—	—	4·3	4·3	40	45	—	—	1·5	4·6	37
*TOTAL—VENEREAL DISEASES	158	—	—	7·2	27·2	63	197	—	1	—	21·9	29·8	55	355	—	—	11·5	57·0	59
Abscess, hand and finger	22	—	—	1·0	0·9	14	8	—	—	—	0·9	0·2	9	30	—	—	1·0	1·0	13
Abscess, other	36	—	—	1·6	1·5	15	29	—	—	—	3·2	0·8	10	65	—	—	2·1	2·2	13
Boils	120	—	—	5·5	3·1	9	103	—	2	—	11·5	3·1	11	223	—	—	7·2	6·1	10
Carbuncles	31	—	—	1·4	0·8	9	9	—	—	—	1·0	0·2	8	40	—	—	1·3	1·0	9
Cellulitis	200	—	—	9·1	6·0	11	190	—	—	—	21·1	5·0	10	390	—	—	12·6	11·0	10
Lymphadenitis and lymph-angitis	38	—	—	1·7	1·6	16	28	—	1	—	3·1	1·2	15	66	—	—	2·1	2·8	15
Osteo-myelitis, periostitis, and osteitis	3	—	—	0·1	0·2	28	1	—	—	—	0·1	0·3	115	4	—	—	0·1	0·5	50
Pyæmia, septicæmia ..	2	—	—	0·1	0·2	12	1	1	—	—	0·1	—	—	3	1	—	0·1	0·1	8
Ulcer	4	—	—	0·2	0·4	36	3	—	—	—	0·3	0·4	54	7	—	—	0·2	0·8	43
Other diseases caused by infection	30	1	—	1·4	2·0	25	27	1	3	1	3·0	3·5	47	57	2	1	1·8	5·5	35
*TOTAL—DISEASES CAUSED BY INFECTION	4,275	5	28	195·4	133·9	11	2,612	7	33	18	290·4	108·2	15	6,887	12	46	223·1	242·1	13

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued.*

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers ..	47	—	—	2·1	1·5	12	26	—	—	—	2·9	0·6	9	73	—	—	2·4	2·2	11
Effects of parasites ..	24	—	—	1·1	1·1	16	21	—	1	—	2·3	0·9	16	45	—	—	1·5	2·0	16
Other diseases classified by systems.																			
Diseases of nervous system and brain.																			
Neuritis	13	—	—	0·6	1·3	36	14	—	1	—	1·6	1·1	28	27	—	—	0·9	2·3	31
Nerve paralysis	6	—	1	0·3	0·8	52	2	—	1	—	0·2	0·2	34	8	—	1	0·3	1·0	47
Epilepsy (including observation cases)	10	—	8	0·5	1·0	35	7	—	—	—	0·8	0·2	12	17	—	8	0·6	1·2	26
Psychoneurosis	44	—	18	2·0	3·4	28	22	—	15	6	2·4	2·9	49	66	—	24	2·1	6·4	35
Mental diseases (including observation cases) ..	16	—	14	0·7	2·2	50	4	—	5	7	0·4	2·5	230	20	—	21	0·6	4·7	86
Other diseases of nervous system	40	2	12	1·8	3·1	29	25	—	3	—	2·8	1·5	22	65	2	12	2·1	4·6	26
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	129	2	53	5·9	11·8	33	74	—	25	13	8·2	8·4	42	203	2	66	6·6	20·2	36

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Diseases of the Eye.																			
Infections	74	—	1	3·4	3·4	17	38	—	6	1	4·2	2·8	27	112	—	2	3·6	6·2	20
Other diseases of the eye	30	—	11	1·4	1·9	23	14	—	5	2	1·6	1·6	42	44	—	13	1·4	3·5	29
TOTAL—DISEASES OF THE EYE	104	—	12	4·8	5·3	18	52	—	11	3	5·8	4·4	31	156	—	15	5·1	9·6	23
Diseases of ear and nose.																			
Otitis media, acute ..	39	—	—	1·8	2·4	22	25	—	1	—	2·8	1·0	15	64	—	—	2·1	3·4	19
Otitis media, chronic ..	10	—	2	0·5	0·8	30	16	—	6	2	1·8	2·2	50	26	—	4	0·8	3·0	42
Other diseases of ear and nose	194	—	1	8·9	9·7	18	130	1	3	—	14·5	5·3	15	324	1	1	10·5	15·0	17
TOTAL—DISEASES OF EAR AND NOSE	243	—	3	11·1	12·9	19	171	1	10	2	19·0	8·5	18	414	1	5	13·4	21·3	19
Diseases of the circulatory system.																			
Endocarditis, acute ..	1	—	—	0·0	0·1	44	—	—	—	—	—	—	—	1	—	—	0·0	0·1	44
Valvular disease of the heart	4	1	3	0·2	0·3	31	2	—	3	1	0·2	0·4	73	6	1	4	0·2	0·7	45
Disease of myocardium ..	2	2	—	0·1	0·0	4	3	—	1	—	0·3	0·6	71	5	2	—	0·2	0·6	45
Disordered action of the heart	27	2	—	1·2	1·0	14	16	—	1	—	1·8	1·0	24	43	2	—	1·4	2·0	17
Varix	29	—	—	1·3	1·4	18	1	—	—	—	0·1	0·0	17	30	—	—	1·0	1·5	18
Other diseases of the circulatory system ..	20	1	—	0·9	1·5	28	10	—	2	—	1·1	1·5	55	30	1	—	1·0	3·0	37
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	83	6	3	3·8	4·4	20	32	—	7	1	3·6	3·6	41	115	6	4	3·7	8·0	25
Diseases of lymphatic system and ductless glands	7	1	1	0·3	0·6	29	5	—	—	—	0·6	0·7	49	12	1	1	0·4	1·2	37

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued.*

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory system. (*a*)																			
Bronchitis	91	—	1	4·2	4·3	17	56	—	3	1	6·2	3·5	23	147	—	2	4·8	7·8	19
Tracheitis	91	—	—	4·2	1·6	7	67	—	—	—	7·4	1·5	8	158	—	—	5·1	3·2	7
Asthma	8	—	1	0·4	0·6	25	6	—	—	—	0·7	0·1	6	14	—	1	0·5	0·7	17
Pleurisy	35	—	2	1·6	2·9	30	25	1	5	—	2·8	1·9	28	60	1	2	1·9	4·8	29
Other diseases of the respiratory system ..	12	1	—	0·5	0·8	24	9	—	2	—	1·0	0·7	30	21	1	—	0·7	1·5	27
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	237	1	4	10·8	10·2	16	163	1	10	1	18·1	7·8	17	400	2	5	13·0	18·0	16
Diseases of teeth and gums	68	—	—	3·1	2·6	14	25	—	—	—	2·8	0·8	12	93	—	—	3·0	3·4	13
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	144	—	—	6·6	6·2	16	27	—	—	—	3·0	0·9	12	171	—	—	5·5	7·1	15
Gastritis, acute	83	—	—	3·8	2·3	10	43	—	—	—	4·8	1·4	12	126	—	—	4·1	3·6	11
Gastritis, chronic ..	4	—	1	0·2	0·2	19	6	—	—	—	0·7	0·4	24	10	—	1	0·3	0·6	22

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Dyspepsia	23	—	—	1·1	0·7	11	23	—	1	—	2·6	1·2	19	46	—	—	1·5	1·9	15
Appendicitis	219	—	—	10·0	13·3	22	63	—	—	—	7·0	4·9	29	282	—	—	9·1	18·2	24
Hernia	58	—	1	2·7	4·6	29	22	—	—	—	2·4	1·9	31	80	—	1	2·6	6·5	29
Constipation	33	—	—	1·5	0·8	9	46	—	1	—	5·1	1·0	8	79	—	—	2·6	1·7	8
Colic	38	—	—	1·7	0·8	8	16	—	—	—	1·8	0·2	5	54	—	—	1·7	1·1	7
Hæmorrhoids	72	—	1	3·3	3·7	19	28	—	—	—	3·1	1·1	14	100	—	1	3·2	4·8	17
Jaundice	12	—	—	0·5	0·8	25	59	—	1	—	6·6	3·3	20	71	—	—	2·3	4·1	21
Other diseases of the digestive system	101	3	7	4·6	8·4	30	78	—	9	1	8·7	5·8	27	179	3	8	5·8	14·2	29
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	787	3	10	36·0	41·7	19	411	—	12	1	45·7	22·1	20	1,198	3	11	38·8	63·8	19
Diseases due to disorders of nutrition or metabolism	10	1	2	0·5	0·6	24	4	—	—	—	0·4	0·6	52	14	1	2	0·5	1·2	32
Diseases of the Generative System.																			
Phimosis	25	—	—	1·1	1·3	19	18	—	—	—	2·0	0·9	18	43	—	—	1·4	2·2	19
Balanitis	10	—	—	0·5	0·3	11	14	—	—	—	1·6	0·4	9	24	—	—	0·8	0·7	10
Urethritis	60	—	—	2·7	4·5	28	50	—	—	—	5·6	4·7	35	110	—	—	3·6	9·3	31
Varicocele	11	—	—	0·5	0·6	19	6	—	—	—	0·7	0·3	17	17	—	—	0·6	0·9	18
Hydrocele	3	—	—	0·1	0·2	26	4	—	—	—	0·4	0·3	26	7	—	—	0·2	0·5	26
Epididymitis	7	—	—	0·3	0·8	42	3	—	—	—	0·3	0·2	19	10	—	—	0·3	1·0	35
Other diseases of the generative system	26	—	1	1·2	1·6	23	17	—	—	—	1·9	0·8	17	43	—	1	1·4	2·5	21
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	142	—	1	6·5	9·4	24	112	—	—	—	12·5	7·5	24	254	—	1	8·2	16·9	24

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 34.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued.*

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	15	—	6	0·7	1·5	36	3	—	—	1	0·3	0·4	47	18	—	7	0·6	1·9	38
Diseases of the joints ..	76	—	3	3·5	7·0	34	28	—	5	—	3·1	3·3	43	104	—	3	3·4	10·3	36
Myalgia and lumbago ..	74	—	—	3·4	2·0	10	50	—	—	—	5·6	1·1	8	124	—	—	4·0	3·1	9
Diseases of muscles, tendons and bursæ ..	60	—	—	2·7	2·4	15	43	—	—	—	4·8	1·5	13	103	—	—	3·3	3·9	14
Deformities of limbs ..	17	—	1	0·8	1·6	35	8	—	—	—	0·9	0·6	29	25	—	1	0·8	2·2	33
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	242	—	10	11·1	14·5	22	132	—	5	1	14·7	6·9	19	374	—	11	12·1	21·4	21
Diseases of Areolar Tissue or Skin.																			
Impetigo	133	—	—	6·1	5·7	16	25	—	—	—	2·8	1·0	15	158	—	—	5·1	6·7	16
Scabies	58	—	—	2·7	1·2	8	2	—	—	—	0·2	0·1	10	60	—	—	1·9	1·3	8
Dermatitis	43	—	—	2·0	2·0	17	33	—	—	—	3·7	2·3	25	76	—	—	2·5	4·3	21
Urticaria	23	—	1	1·1	0·5	8	9	—	—	—	1·0	0·5	21	32	—	1	1·0	1·0	12
Eczema	22	—	—	1·0	1·3	21	9	—	—	—	1·0	0·3	11	31	—	—	1·0	1·6	18
Herpes	30	—	—	1·4	1·0	12	16	—	—	—	1·8	0·3	8	46	—	—	1·5	1·3	11
Psoriasis	12	—	—	0·5	0·8	24	5	—	—	—	0·6	0·2	18	17	—	—	0·6	1·0	22
Tinea cruris	164	—	—	7·5	6·2	14	67	—	—	—	7·4	1·5	8	231	—	—	7·5	7·6	12

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Other tinea	17	—	—	0·8	0·6	13	12	—	—	—	1·3	0·5	16	29	—	—	0·9	1·1	14
Ingrowing toe-nail ..	21	—	—	1·0	0·7	12	14	—	—	—	1·6	0·6	16	35	—	—	1·1	1·3	14
Other diseases of the skin	92	—	1	4·2	5·7	23	43	—	—	—	4·8	1·6	14	135	—	1	4·4	7·4	20
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	615	—	2	28·1	25·7	15	235	—	—	—	26·1	9·0	14	850	—	2	27·5	34·8	15
Diseases of Urinary Organs.																			
Nephritis	9	1	1	0·4	1·2	48	1	—	—	—	0·1	0·0	3	10	1	1	0·3	1·2	43
Pyelitis	7	—	—	0·3	0·9	45	7	—	—	—	0·8	0·6	33	14	—	—	0·5	1·5	39
Cystitis	6	—	—	0·3	0·6	40	8	—	—	—	0·9	0·2	10	14	—	—	0·5	0·9	23
Incontinence of urine ..	1	—	1	0.0	0·1	21	—	—	—	—	—	—	—	1	—	1	0·0	0·1	21
Albuminuria	15	—	—	0·7	0·7	18	5	—	—	—	0·6	0·2	17	20	—	—	0·6	1·0	18
Other diseases of urinary organs	51	—	1	2·3	4·9	35	28	—	5	—	3·1	2·8	37	79	—	1	2·6	7·8	36
TOTAL—DISEASES OF URINARY ORGANS ..	89	1	3	4·1	8·4	35	49	—	5	—	5·4	3·9	29	138	1	3	4·5	12·4	33
Tumours and Cysts.																			
Tumours, non-malignant	8	—	—	0·4	0·5	22	3	—	—	—	0·3	0·2	22	11	—	—	0·4	0·7	22
Tumours, malignant ..	3	1	1	0·1	0·4	44	3	1	2	—	0·3	0·9	113	6	2	1	0·2	1·3	79
Tumours, undiagnosed ..	3	—	—	0·1	0·3	38	—	—	—	—	—	—	—	3	—	—	0·1	0·3	38
Cysts	33	—	—	1·5	0·9	9	12	—	—	—	1·3	0·3	9	45	—	—	1·5	1·1	9
TOTAL—TUMOURS AND CYSTS	47	1	1	2·1	2·0	16	18	1	2	—	2·0	1·4	28	65	2	1	2·1	3·4	19
Poisons.																			
Effects of alcohol ..	—	—	—	—	—	—	2	—	—	—	0·2	0·1	12	2	—	—	0·1	0·1	12
Other poisons	13	1	—	0·6	0·5	15	34	—	—	—	3·8	0·8	9	47	1	—	1·5	1·3	10
TOTAL—POISONS ..	13	1	—	0·6	0·5	15	36	—	—	—	4·0	0·9	9	49	1	—	1·6	1·4	10
No appreciable disease ..	72	—	—	3·3	1·5	8	23	—	—	—	2·6	0·5	7	95	—	—	3.1	2·0	7
Debility	19	—	—	0·9	0·6	12	12	—	1	—	1·3	0·5	16	31	—	—	1·0	1·2	14
TOTAL—ALL DISEASES	7,253	22	133	331·6	289·2	15	4,213	10	122	40	468·4	197·2	17	11,466	32	173	371·4	486·3	15

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued*.

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	15	—	6	0·7	1·5	36	3	—	—	1	0·3	0·4	47	18	—	7	0·6	1·9	38
Diseases of the joints ..	76	—	3	3·5	7·0	34	28	—	5	—	3·1	3·3	43	104	—	3	3·4	10·3	36
Myalgia and lumbago ..	74	—	—	3·4	2·0	10	50	—	—	—	5·6	1·1	8	124	—	—	4·0	3·1	9
Diseases of muscles, tendons and bursæ ..	60	—	—	2·7	2·4	15	43	—	—	—	4·8	1·5	13	103	—	—	3·3	3·9	14
Deformities of limbs ..	17	—	1	0·8	1·6	35	8	—	—	—	0·9	0·6	29	25	—	1	0·8	2·2	33
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	242	—	10	11·1	14·5	22	132	—	5	1	14·7	6·9	19	374	—	11	12·1	21·4	21
Diseases of Areolar Tissue or Skin.																			
Impetigo	133	—	—	6·1	5·7	16	25	—	—	—	2·8	1·0	15	158	—	—	5·1	6·7	16
Scabies	58	—	—	2·7	1·2	8	2	—	—	—	0·2	0·1	10	60	—	—	1·9	1·3	8
Dermatitis	43	—	—	2·0	2·0	17	33	—	—	—	3·7	2·3	25	76	—	—	2·5	4·3	21
Urticaria	23	—	1	1·1	0·5	8	9	—	—	—	1·0	0·5	21	32	—	1	1·0	1·0	12
Eczema	22	—	—	1·0	1·3	21	9	—	—	—	1·0	0·3	11	31	—	—	1·0	1·6	18
Herpes	30	—	—	1·4	1·0	12	16	—	—	—	1·8	0·3	8	46	—	—	1·5	1·3	11
Psoriasis	12	—	—	0·5	0·8	24	5	—	—	—	0·6	0·2	18	17	—	—	0·6	1·0	22
Tinea cruris	164	—	—	7·5	6·2	14	67	—	—	—	7·4	1·5	8	231	—	—	7·5	7·6	12

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Other tinea	17	—	—	0·8	0·6	13	12	—	—	—	1·3	0·5	16	29	—	—	0·9	1·1	14
Ingrowing toe-nail ..	21	—	—	1·0	0·7	12	14	—	—	—	1·6	0·6	16	35	—	—	1·1	1·3	14
Other diseases of the skin	92	—	1	4·2	5·7	23	43	—	—	—	4·8	1·6	14	135	—	1	4·4	7·4	20
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	615	—	2	28·1	25·7	15	235	—	—	—	26·1	9·0	14	850	—	2	27·5	34·8	15
Diseases of Urinary Organs.																			
Nephritis	9	1	1	0·4	1·2	48	1	—	—	—	0·1	0·0	3	10	1	1	0·3	1·2	43
Pyelitis	7	—	—	0·3	0·9	45	7	—	—	—	0·8	0·6	33	14	—	—	0·5	1·5	39
Cystitis	6	—	—	0·3	0·6	40	8	—	—	—	0·9	0·2	10	14	—	—	0·5	0·9	23
Incontinence of urine ..	1	—	1	0·0	0·1	21	—	—	—	—	—	—	—	1	—	1	0·0	0·1	21
Albuminuria	15	—	—	0·7	0·7	18	5	—	—	—	0·6	0·2	17	20	—	—	0·6	1·0	18
Other diseases of urinary organs	51	—	1	2·3	4·9	35	28	—	5	—	3·1	2·8	37	79	—	1	2·6	7·8	36
TOTAL—DISEASES OF URINARY ORGANS ..	89	1	3	4·1	8·4	35	49	—	5	—	5·4	3·9	29	138	1	3	4·5	12·4	33
Tumours and Cysts.																			
Tumours, non-malignant	8	—	—	0·4	0·5	22	3	—	—	—	0·3	0·2	22	11	—	—	0·4	0·7	22
Tumours, malignant ..	3	1	1	0·1	0·4	44	3	1	2	—	0·3	0·9	113	6	2	1	0·2	1·3	79
Tumours, undiagnosed ..	3	—	—	0·1	0·3	38	—	—	—	—	—	—	—	3	—	—	0·1	0·3	38
Cysts	33	—	—	1·5	0·9	9	12	—	—	—	1·3	0·3	9	45	—	—	1·5	1·1	9
TOTAL—TUMOURS AND CYSTS	47	1	1	2·1	2·0	16	18	1	2	—	2·0	1·4	28	65	2	1	2·1	3·4	19
Poisons.																			
Effects of alcohol ..	—	—	—	—	—	—	2	—	—	—	0·2	0·1	12	2	—	—	0·1	0·1	12
Other poisons	13	1	—	0·6	0·5	15	34	—	—	—	3·8	0·8	9	47	1	—	1·5	1·3	10
TOTAL—POISONS ..	13	1	—	0·6	0·5	15	36	—	—	—	4·0	0·9	9	49	1	—	1·6	1·4	10
No appreciable disease ..	72	—	—	3·3	1·5	8	23	—	—	—	2·6	0·5	7	95	—	—	3·1	2·0	7
Debility	19	—	—	0·9	0·6	12	12	—	1	—	1·3	0·5	16	31	—	—	1·0	1·2	14
TOTAL—ALL DISEASES	7,253	22	133	331·6	289·2	15	4,213	10	122	40	468·4	197·2	17	11,466	32	173	371·4	486·3	15

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued.*

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.
General Injuries.						Days.							Days.						Days.
Burns and scalds ..	6	2	—	0·3	1·3	82	10	2	1	—	1·1	0·8	28	16	4	—	0·5	2·1	48
Heat exhaustion, heat hyperpyrexia and sunstroke	10	—	—	0·5	0·2	6	7	3	—	—	0·8	0·1	8	17	3	—	0·6	0·3	6
Suffocation and strangulation	1	1	—	0·0	—	—	—	—	—	—	—	—	—	1	1	—	0·0	—	—
Drowning and effects of immersion	6	6	—	0·3	—	—	3	2	—	1	0·3	0·0	2	9	8	—	0·3	0·0	1
Minor injuries	68	—	—	3·1	1·9	10	22	—	—	—	2·4	0·7	11	90	—	—	2·9	2·5	10
Multiple fractures ..	79	37	5	3·6	9·1	42	24	14	2	—	2·7	1·7	26	103	51	5	3·3	10·8	38
Gunshot wounds.. ..	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	—	—
Multiple wounds.. ..	1	—	—	0·0	0·1	37	—	—	—	—	—	—	—	1	—	—	0·0	0·1	37
Other injuries	9	—	—	0·4	0·2	8	4	—	—	—	0·4	0·1	10	13	13	—	0·4	0·3	9
*TOTAL—GENERAL INJURIES	180	46	5	8·2	12·7	26	71	22	3	—	7·9	3·4	18	251	68	5	8·1	16·2	24
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds..	114	—	3	5·2	3·5	11	28	1	—	—	3·1	0·8	10	142	1	3	4·6	4·3	11
Gunshot wounds.. ..	2	2	—	0·1	—	—	—	—	—	—	—	—	—	2	2	—	0·1	—	—
Burns and scalds ..	10	—	—	0·5	0·5	18	5	—	—	—	0·6	0·4	30	15	—	—	0·5	0·9	22
Fracture of skull ..	20	7	—	0·9	1·6	28	4	2	—	—	0·4	0·2	16	24	9	—	0·8	1·7	26
Concussion of brain ..	171	—	—	7·8	9·9	21	43	—	1	—	4·8	2·2	19	214	—	—	6·9	12·1	21
Other fractures	16	—	—	0·7	1·2	27	7	—	—	—	0·8	0·2	10	23	—	—	0·7	1·4	22
Other injuries	27	1	—	1·3	1·1	15	12	1	—	—	1·3	0·2	7	39	2	—	1·3	1·3	12
TOTAL—HEAD AND NECK	360	10	3	16·5	17·7	18	99	4	1	—	11·0	4·0	15	459	14	3	14·9	21·7	17

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(ii) Trunk :																			
Contusions and wounds..	50	—	—	2·3	1·3	10	28	—	—	—	3·1	1.0	13	78	—	—	2·5	2·3	11
Gunshot wounds.. ..	—	—	—	—	—	—	1	—	—	—	0·1	0·2	89	1	—	—	0·0	0·2	89
Fractures	12	1	—	0·5	1·2	37	7	—	1	1	0·8	1·6	85	19	1	1	0·6	2·9	55
Other injuries	30	—	—	1·4	0·9	10	13	—	1	—	1·4	0·6	17	43	—	—	1·4	1·4	12
TOTAL—TRUNK	92	1	—	4·2	3·4	13	49	—	2	1	5·4	3·4	26	141	1	1	4·6	6·8	18
(iii) Upper Extremity:																			
Contusions and wounds..	71	—	2	3·2	3·1	16	29	—	—	—	3·2	1·4	18	100	—	2	3·2	4·5	16
Gunshot wounds.. ..	2	—	—	0·1	0·2	32	—	—	—	—	—	—	—	2	—	—	0·1	0·2	32
Burns and scalds ..	8	—	—	0·4	0·2	10	5	—	—	—	0·6	0·2	11	13	—	—	0·4	0·4	10
Fractures..	134	—	1	6·1	11·3	31	62	—	—	—	6·9	2·9	17	196	—	1	6·3	14·2	27
Dislocations	24	—	—	1·1	1·2	18	18	—	—	—	2·0	0·6	12	42	—	—	1·4	1·8	16
Sprains	12	—	—	0·5	0·3	9	12	—	—	—	1·3	0·4	12	24	—	—	0·8	0·7	11
Other injuries	13	—	—	0·6	0·8	24	5	—	—	—	0·6	0·2	14	18	—	—	0·6	1·0	21
TOTAL—UPPER EXTREMITY	264	—	3	12·1	17·1	24	131	—	—	—	14·6	5·7	16	395	—	3	12·8	22·8	21
(iv) Total—Hand and Wrist	110	—	2	5·0	5·9	20	49	—	—	—	5·4	1·9	14	159	—	2	5·2	7·9	18
(v) Total—Rest of Limb	154	—	1	7·0	11·1	26	82	—	—	—	9·1	3·8	17	236	—	1	7·6	15·0	23
(vi) Lower Extremity:																			
Contusions and wounds..	219	—	—	10·0	7·0	12	81	—	1	—	9·0	2·8	13	300	—	—	9·7	9·8	12
Gunshot wounds.. ..	1	—	—	0·0	0·1	23	—	—	—	—	—	—	—	1	—	—	0·0	0·1	23
Burns and scalds ..	10	—	—	0·5	0·5	19	4	—	—	—	0·4	0·3	28	14	—	—	0·5	0·8	22
Fractures..	111	—	1	5·1	21·3	70	39	—	4	—	4·3	4·3	41	150	—	1	4·9	25·6	62
Dislocations	4	—	—	0·2	0·3	29	1	—	—	—	0·1	0.0	7	5	—	—	0·2	0·3	25
Sprains	325	—	2	14·9	12·2	14	136	—	—	—	15·1	4·4	12	461	—	2	14·9	16·6	13
Other injuries	184	—	—	8·4	7·3	14	139	—	—	—	15·5	5·1	13	323	—	—	10·5	12·4	14
TOTAL—LOWER EXTREMITY	854	—	3	39·0	48·6	21	400	—	5	—	44·5	17·0	15	1,254	—	3	40·6	65·6	19

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD, AND TOTAL FORCE, 1933—*continued.*

Disease.	Home. Average strength, 21,874.						Abroad. Average strength, 8,994.							Total Force. Average strength, 30,868.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) TOTAL—FOOT AND ANKLE	362	—	—	16·5	11·2	11	150	—	1	—	16·7	4·6	11	512	—	—	16·6	15·9	11
(viii) TOTAL—KNEE ..	245	—	2	11·2	13·4	20	164	—	—	—	18·2	6·6	15	409	—	2	13·2	20·0	18
(ix) TOTAL—REST OF LIMB..	247	—	1	11·3	24·0	36	86	—	4	—	9·6	5·7	24	333	—	1	10·8	29·7	33
*TOTAL—ALL LOCAL INJURIES	1,570	11	9	71·8	86·7	20	679	4	8	1	75·5	30·1	16	2,249	15	10	72·9	116·9	19
*TOTAL—ALL INJURIES ..	1,750	57	14	80·0	99·5	21	750	26	11	1	83·4	33·5	16	2,500	83	15	81·0	133·0	19
*TOTAL—ALL DISEASES ..	7,253	22	133	331·6	289·2	15	4,213	10	122	40	468·4	197·2	17	11,466	32	173	371·4	486·3	15
*TOTAL—ALL DISABILITIES	9,003	79	147	411·6	388·7	16	4,963	36	133	41	551·8	230·7	17	13,966	115	188	452·4	619·4	16

* Analysed in further detail in table VII.

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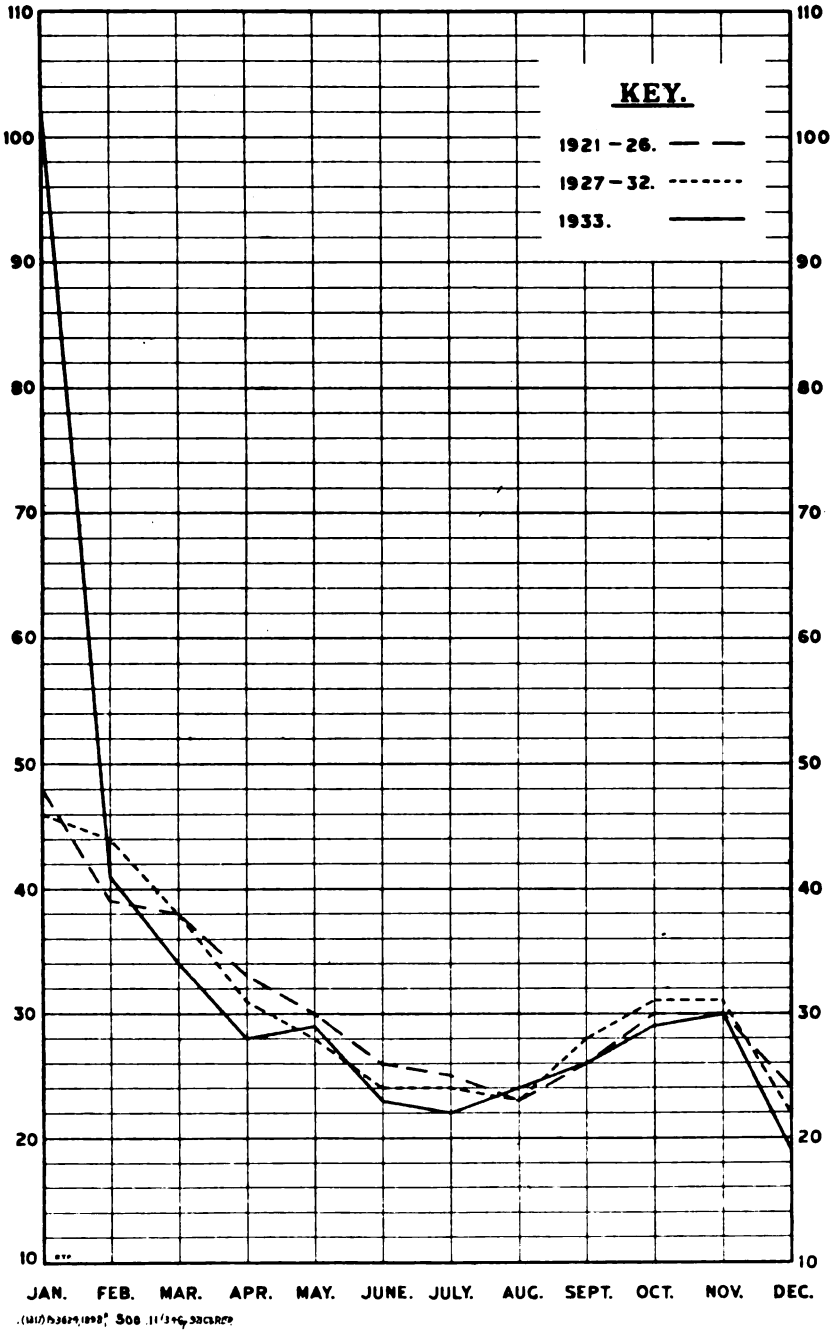
CHART I. SICKNESS AT HOME, — 1933.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1933

General

50. In the force at home, including the Fleet Air Arm in this area, the incidence of total sickness was 636 per 1,000 of strength, compared with 534 in 1932 and average incidences during the two preceding periods of 562 and 801 per 1,000. Excluding cases of not more than 48 hours' duration which are not admitted to hospital or sick quarters, the incidence was 412, compared with 355 in 1932 and average incidences of 372 and 374 per 1,000 during the two preceding periods. The total number of sick daily was 18·6 per 1,000 of strength compared with 18·4 in 1932 and average incidences of 20·3 per 1,000 during each of the two preceding periods. Excluding cases of not more than 48 hours' duration, the number of sick daily was 17·8 per 1,000 of strength, which compares with 17·7 in 1932 and average incidences of 19·7 and 18·6 per 1,000 over the two preceding periods. The average number of days' sickness per head was 6·8 in 1933, compared with 6·7 in 1932 and average incidences of 7·4 during each of the two preceding periods. Excluding cases of not more than 48 hours' duration, the average number of days' sickness per head was 6·5 in 1933 as in 1932, and compares with average incidences of 7·2 and 6·8 for the two preceding periods. The average duration of each case in days, including cases of less than 48 hours' duration was 11 compared with 13 days in 1932 and averages of 13 and 9 days over the two preceding periods. Excluding cases of less than 48 hours' duration, the average duration of each case in days was 16 in 1933 compared with 18 in 1932 and averages of 19 and 18 days for the two preceding periods.

51. Excluding cases of not more than 48 hours' duration, the increase in the total sickness incidence of 57 per 1,000 in 1933 compared with 1932 is accounted for by an increase in the incidence of influenza to 74·8 in 1933 from 32·2 per 1,000 in 1932, and of upper air passage infections (excluding tonsillitis) to 43·9 in 1933 from 35·2 per 1,000 in 1932. Other incidences worthy of note were those for injuries which rose to 80·0 in 1933 from 72·8 in 1932, and tinea cruris with an increase to 7·5 in 1933 from 5·3 per 1,000 in 1932. The incidence of respiratory tuberculosis decreased from 1·3 in 1932 to 0·8 per 1,000 in 1933 and represents a decrease of 12 cases from 30 in 1932 to 18 in 1933.

52. (i) The incidence of deaths was 3·6 in 1933 compared with 3·5 per 1,000 in 1932 and average incidences of 3·7 and 3·2 per 1,000 for the two preceding periods.

(ii) The final invaliding incidence showed a fairly marked decrease to 6·7 from 8·0 in 1932 and compares with average final invaliding incidences of 8·0 and 12·1 per 1,000 for the two preceding periods.

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53. Table XIII, page 50, analyses for 1933 by age groups of airmen, total airmen, officers and cadets, and the total force at home, certain diseases which have been shown over a number of years to have been responsible for the bulk of the medical non-effectiveness at home. Table XIII also allows of a more detailed analysis of the incidence of disease at home in the age groups given in Table V, page 26, and compares the incidences of the various diseases in 1933 with those for 1932,1931 and 1930.

54. (i) Analysing the incidence of all disabilities for airmen—all ages, and the officers' and cadets' group, the incidence for airmen, at 405·7, compares with the officers' and cadets' group at 458·5 per 1,000, and an incidence for all ranks at home of 411·6 per 1,000, which is observed to be the highest incidence recorded for the past four years. In the age groups for airmen, the incidence for all disabilities is highest at 693·2 per 1,000 in the under 18 group, i.e. in the apprentices' group, and gradually gets lower until the lowest incidence is reached in the age group—35 to 39 at 247·1 per 1,000. The incidence rises again to 274·9 per 1,000 in the oldest group—40 and over.

(ii) The incidence of all diseases for airmen—all ages—is 325·4 compared with 380·3 for officers and cadets and 331·6 per 1,000 for all ranks at home. This latter incidence in 1933 compares with incidences of 273·8, 322·9 and 276·8 per 1,000 for the years 1932, 1931 and 1930 respectively. Considering the age groups for airmen alone, the incidence of all diseases is highest in the youngest group at 594·0 per 1,000 compared with the lowest incidence in group aged 35 to 39 at 225·1 per 1,000. The incidence of all diseases for these age groups shows the same progressive decrease from the youngest group until group aged 35 to 39 is reached, as in the all disabilities incidence, and then an increase is recorded in the age group—40 and over.

(iii) The incidence of injury for airmen—all ages, is 80·2 compared with 78·2 for officers and cadets and an incidence for all ranks of 80·0 per 1,000, which compares further with incidences of 80·7, 73·0 and 71·9 per 1,000 for 1932, 1931, and 1930 respectively. Thus is is noted that there has been no marked variation in this incidence during the past four years. Analysing the injuries' incidence for the age groups of airmen, the highest incidence is recorded in the age group 18 and 19, and then it decreases progressively with increase of age until age group 35 to 39 is reached, with a lowest incidence of 22·0 per 1,000, but then an increase to 38·8 per 1,000 is recorded in the oldest age group—40 and over.

(iv) In analysing the various individual diseases incidences, it is noted that the incidence of influenza in 1933 at 74·8 per 1,000 was the highest recorded for the past four years; and that the incidence of venereal disease was slightly lower at 7·2 per 1,000 than in 1932, but markedly lower than in 1931 and 1930. There is nothing further to be noted, comparing the incidences of these diseases in 1933 and the previous three years. Comparing the age groups of airmen, and the officers' and cadets' group, it will

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be noted that the incidence of influenza is increased in all groups compared with 1932 and is highest in the officers and cadets group at 120·3 compared with an all ranks incidence of 74·8 per 1,000, and a lowest incidence in the airmen age group—26 and 27, of 54·8 per 1,000. This high incidence of influenza among the officers and cadets group was noted also in 1932 and 1931. The incidence of upper air passage infections shows a general increase over 1932. The incidence of venereal disease is highest at 13·0 per 1,000 in the airmen age group—24 and 25 ; no cases occurred in the under 18 age group of airmen. The ages 22 to 27 among airmen show the highest incidences for venereal disease. The incidences for respiratory diseases do not appear to convey any definite indication as regards occurrence at any particular ages. The incidence of digestive diseases is fairly uniform, except that the youngest age group of airmen records definitely the highest incidence at 68·2, and the oldest age group of airmen definitely the lowest incidence at 18·5 compared with 36·0 per 1,000 for all ranks.

55. Table XIV, page 51, analyses the incidences of the same diseases as shown in table XIII among the personnel of the larger stations which have maintained an approximate average strength of 500 or over during 1933. The stations are the same in 1933 as those analysed in 1932, except that Digby is omitted on closing down, while Martlesham and Upper Heyford are included on increase of personnel to approximately 500. Table XIV also compares the all-stations incidence at home for the year 1933, with those for 1932 and 1931.

56. (i) The highest incidence of all disabilities—677 per 1,000, is recorded at Cranwell, which also occupied this place in 1932 with an incidence of 567 per 1,000. The second place in this incidence is occupied by Upper Heyford with an incidence of 587 per 1,000 and Halton follows with an incidence of 501 per 1,000. These incidences compare with an incidence of 411·6 for all stations in 1933. It will be noted that the stations where aircraft apprentices are stationed record high incidences. The station showing the lowest all disabilities incidence was Martlesham with 162 per 1,000.

(ii) Considering the incidences of all diseases, Martlesham recorded the lowest incidence with 109 per 1,000 and Cranwell the highest with 559 per 1,000 which compare with an incidence of 331·6 per 1,000 for all stations.

(iii) Upper Heyford showed the highest injuries incidence with 144 and Uxbridge the lowest with 41 which compare with an incidence of 80 per 1,000 for all stations. Uxbridge, which is a non-flying station, also recorded the lowest injuries incidence in 1932. Other points worthy of note were, firstly, that venereal disease was almost non-existent at Martlesham, Halton, Cranwell, Henlow and Uxbridge ; secondly, the high incidence of influenza at Grantham—151 per 1,000, and the low incidence of this disease at Calshot—11 per 1,000, as in 1932 ; thirdly, that Martlesham

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recorded the lowest incidences for upper air passage infections, venereal disease, respiratory diseases, digestive diseases and all other diseases and that Upper Heyford showed the highest incidence for these disease groups excepting all other diseases. It is further noted that all stations except Calshot and Felixstowe, showed increases in the incidence of influenza and that increases in the incidence of upper air passage infections were recorded by all stations except Cranwell, Manston and the Fleet Air Arm.

57. Chart I, facing page 45, records graphically the monthly case incidence at home of the total sickness per 1,000 of strength for 1933, and the two preceding periods. The high incidence in January is noticeable and was due to influenza. It also corresponds with the seasonal increase on return of personnel from Christmas leave. The low incidence during the summer months of June, July, August and September is also observed.

Notes on Diseases

58. *Influenza.*—There were 1,637 cases of influenza during 1933 at home, an increased incidence to 74·8 from 32·2 per 1,000 in 1932. This was the highest incidence recorded for the past four years. The average number of sick daily was 33·6 in 1933, compared with 17·4 in 1932.

59. *Upper air passage infections.*—The incidence of this group of diseases increased from 60·7 in 1932 to 73·1 per 1,000 in 1933. The increase was chiefly due to an increase in incidence of upper air passage infections, other than acute tonsillitis, from 35·2 in 1932 to 43·9 per 1,000 in 1933. The increase in the incidence of acute tonsillitis was only 3·8 per 1,000 in 1933 compared with 1932.

60. *Tonsils.*—(i) During 1933, there were 638 cases of acute tonsillitis, giving an incidence of 29·2 per 1,000, compared with 586 cases and an incidence of 25·4 per 1,000 in 1932.

(ii) However, there was a decrease in the incidence of hypertrophy of the tonsils to 6·6 from 8·8 per 1,000 in 1932. The number of cases in 1933 was 144, compared with 204 in 1932.

61. *Measles, mumps, and scarlet fever.*—The incidences of these diseases remain very low, less than 1·5 per 1,000 of strength.

62. *Acute rheumatism.*—Thirty-two fresh cases of acute rheumatism, representing an incidence of 1·5 per 1,000, occurred at home, compared with 33 cases and an incidence of 1·4 per 1,000 in 1932. In addition, there were two cases remaining under treatment at the end of 1932, making a total of 34 coming under treatment in 1933. One died during the year, and six were invalided from the service, compared with no deaths and six final invalids in 1932. Two of the final invalids were the two cases remaining from 1932. The 32 fresh cases in 1933 comprised one officer, 18 airmen and 13 aircraft apprentices—10 at Halton and 3 at Cranwell. The one officer was remaining under treatment at the end of the year. Of the 18 airmen other than apprentices,

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15 were returned to duty during the year, two were invalided from the Service, and one was remaining under treatment at the end of 1933. Of the 13 apprentices, ten—seven at Halton and three at Cranwell—were fit for duty during the year, one died, and two were invalided from the Service. One of the apprentices who was invalided had only three months' service, but it was considered that the disability had arisen after entry into the Service.

63. *Diseases of the heart.*—There were 34 cases of heart disease, representing an incidence of 1·5 per 1,000, compared with 31 cases and an incidence of 1·3 per 1,000 in 1932. Of the 34 cases, 27 were "disordered action," three were due to disease of the myo- and endocardium and four were cases of valvular disease. There were five deaths, and three were invalided from the Service.

64. *Otitis media.*—(i) There were 39 cases of acute otitis media in 1933, giving an incidence of 1·8 per 1,000, compared with 30 cases and an incidence of 1·3 per 1,000 in 1932.

(ii) The number of chronic cases in 1933 was ten, giving an incidence of 0·5 per 1,000, compared with 30 cases, and an incidence of 1·3 per 1,000 in 1932. In 1933, two were finally invalided compared with 11 in 1932.

65. *Venereal disease.*—The case incidence of venereal diseases fell very slightly to 7·2 from 7·3 per 1,000, comparing 1933 with 1932. There was a decrease in the incidence of syphilis, but increases in those of gonorrhoea and soft chancre.

66. *Tinea cruris.*—There was an increase in the incidence of tinea cruris in 1933 to 7·5 from 5·3 per 1,000 in 1932, representing an increase of 42 cases from 122 in 1932 to 164 in 1933.

67. *Malaria.*—Two cases of primary benign tertian malaria were reported during 1933. These cases were not actually infected at home, but had returned from overseas and the primary attack developed at home. There were also 17 cases of recurrent malaria during the year. The case incidence was 0·9 in 1933, compared with 0·6 per 1,000 in 1932.

68. *Psychoneurosis.*—During 1933, 44 cases, representing an incidence of 2·0 per 1,000, were recorded, compared with 38 cases and an incidence of 1·6 per 1,000 in 1932. There were 18 invalided from the Service in 1933, compared with 19 in 1932.

69. *Heat exhaustion and heat hyperpyrexia.*—During 1933, ten cases under this group of diseases were diagnosed compared with one case in 1932. It will be recollected that the temperatures registered in the summer of 1933 were high, and remained so for long periods. Five of the cases were diagnosed as heat exhaustion, three as heatstroke, and two as sunstroke. With the exception of three cases of heat exhaustion, all the cases were reported and treated by civilian medical practitioners. No case was serious and all were fit for duty within a very short period.

70. *Injury.*—The incidence of injury at home was 80·0 in 1933, compared with 80·7 per 1,000 in 1932.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	968	95·0	140·5	—	7·2	68·2	283·1	594·0	99·2	693·2
18 and 19 ..	2,448	76·0	79·2	2·0	10·6	39·6	187·9	395·4	110·3	505·7
20 and 21 ..	3,296	75·5	92·2	3·3	13·7	37·0	141·1	362·8	105·0	467·8
22 and 23 ..	2,848	78·7	83·2	12·3	10·9	32·0	132·4	349·4	98·3	447·7
24 and 25 ..	2,310	59·3	61·0	13·0	7·4	35·5	109·1	285·3	83·1	368·4
26 and 27 ..	2,209	54·8	60·7	11·3	7·7	35·3	112·3	282·0	72·0	354·0
28 and 29 ..	1,318	60·7	57·7	9·1	7·6	34·9	96·4	266·3	53·9	320·2
30 to 34 ..	2,397	63·4	48·8	9·6	9·6	29·6	81·8	242·8	41·3	284·1
35 to 39 ..	1,044	63·2	46·9	3·8	13·4	23·0	74·7	225·1	22·0	247·1
40 and over ..	593	60·7	47·2	3·4	21·9	18·5	84·3	236·1	38·8	274·9
Airmen, all ages	19,431	69·1	72·9	7·6	10·4	35·4	130·0	325·4	80·2	405·7
Officers and cadets, all ages	2,443	120·3	74·9	4·5	13·9	40·5	126·1	380·3	78·2	458·5
All ranks at Home, 1933..	21,874	74·8	73·1	7·2	10·8	36·0	129·7	331·6	80·0	411·6
All ranks at Home, 1932..	*23,053*	*32·2*	*60·7*	*7·3*	*10·5*	*40·2*	*122·8*	*273·8*	*80·7*	*354·6*
All ranks at Home, 1931..	*23,492*	*48·2*	*75·9*	*10·4*	*11·9*	*44·3*	*132·3*	*322·9*	*73·0*	*395·9*
All ranks at Home, 1930..	*23,191*	*10·6*	*63·6*	*12·7*	*10·7*	*39·9*	*139·3*	*276·8*	*71·9*	*348·7*

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Table XIV.—Sickness at Principal Stations at Home.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	514	80	105	6	14	41	134	379	82	461
Calshot.. ..	619	11	82	6	2	23	70	194	94	288
Cranwell ..	1,682	112	67	4	12	49	314	559	118	677
Felixstowe ..	457	66	88	13	13	35	83	298	85	383
Gosport ..	665	74	110	12	14	30	89	328	71	398
Grantham ..	476	151	48	10	8	23	153	395	74	469
Halton	2,250	62	105	3	8	56	184	418	83	501
Henlow.. ..	1,588	31	120	4	8	49	117	329	69	398
Manston ..	718	61	84	7	6	18	102	277	67	344
Martlesham ..	457	28	20	2	2	13	44	109	52	162
Upper Heyford	472	42	121	13	21	59	186	443	144	587
Uxbridge ..	1,132	121	51	4	14	25	154	369	41	410
Fleet Air Arm at home.. ..	566	46	71	11	18	32	67	244	78	322
All other stations	10,278	80	58	9	12	32	100	290	78	368
Total 1933..	21,874	74·8	73·1	7·2	10·8	36·0	129·7	331·6	80·0	411·6
Total 1932..	*23,053*	*32·2*	*60·7*	*7·3*	*10·5*	*40·2*	*122·8*	*273·8*	*80·7*	*354·6*
Total 1931..	*23,492*	*48·2*	*75·9*	*10·4*	*11·9*	*44·3*	*132·3*	*322·9*	*73·0*	*395·9*

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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1933

General

71. In table I, page viii, is analysed the incidence of total sickness in the force abroad, which includes for the first time the incidences for the Fleet Air Arm personnel serving in waters other than home waters and also records the sickness incidence for certain geographical areas. As stated in Chapter I, para. 3, the Mediterranean Littoral comprises Malta, Egypt, Sudan, Transjordan and Palestine, Aden, and drafts *en route* to and from the United Kingdom. In this table comparison is made between 1933 and the average incidences for the two preceding periods. The average strength of the force abroad in 1933 was 8,994, and the total number of cases of sickness was 7,919, representing an incidence of 880 compared with 889 per 1,000 in 1932, and average incidences of 1,049 and 1,606 for the two preceding periods. Excluding cases of not more than 48 hours' duration, the incidence was 552 in 1933 compared with 514 in 1932 and average incidences of 591 and 731 per 1,000 for the two preceding periods.

72. The number of sick daily, including 48-hour cases, rose to 27·1 in 1933 from 25·5 in 1932 and compares with average incidences of 29·0 and 39·7 over the two preceding periods. Excluding cases of less than 48 hours' duration, the constantly sick incidence was 25·8 per 1,000 in 1933 compared with 24·0 in 1932 and average incidences of 27·4 and 36·4 per 1,000 for the two preceding periods.

73. The average number of days' sickness per head including cases of less than 48 hours' duration was 9·9 in 1933, compared with 9·3 in 1932 and averages of 10·6 and 14·5 for the two preceding periods. If cases of less than 48 hours' duration are excluded, the average number of days' sickness per head was 9·4 in 1933, and compares with 8·8 in 1932 and averages of 10·0 and 13·3 days for the two preceding periods.

74. Including cases of less than 48 hours' duration, the average duration of each case in days was 11 in 1933 compared with 10 in 1932 and averages of 10 and 9 for the two preceding periods. If cases not admitted to hospitals and sick quarters are excluded, the average duration of each case was 17 days in 1933, compared with 17 in 1932 and average durations of 17 and 18 days for the two preceding periods.

75. As noted from the comparative sickness incidences for the total force abroad during 1933 compared with 1932, there were increases in the case incidences per 1,000 of strength for malaria, 32·1 to 48·6, influenza, 13·3 to 19·9, tinea cruris,

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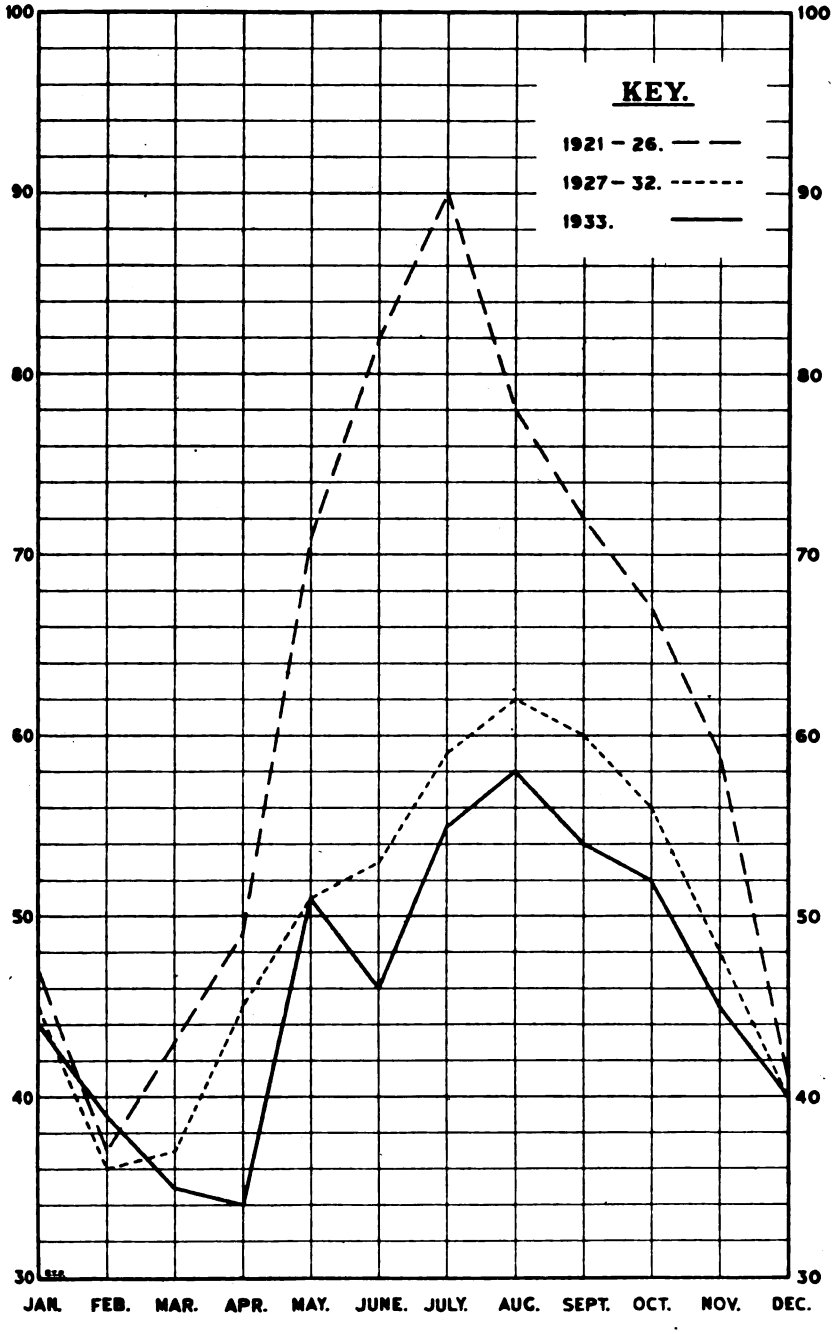
CHART 2. SICKNESS ABROAD, — 1933.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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0·5 to 7·4, and decreases recorded for dysentery, 8·6 to 6·7, acute enteritis, 29·5 to 27·0, sandfly fever, 47·0 to 40·0, acute tonsillitis, 36·4 to 33·2, and upper air passage infections, 43·2 to 37·8.

76. The death incidence at 4·0 per 1,000 was the same in 1933 as in 1932 and compares with average incidences of 5·1 and 7·3 per 1,000 for the two preceding periods. The invaliding rate to the United Kingdom from abroad was 14·8 per 1,000 in 1933 compared with 13·5 in 1932 and average rates of 16·9 and 22·2 per 1,000 for the two preceding periods. The invaliding incidence for personnel who were finally invalided on account of disabilities which arose while serving abroad was 4·6 in 1933, compared with 3·9 in 1932 and average incidences of 3·6 and 5·9 per 1,000 for the two preceding periods.

77. (i) Comparing the sickness incidences for 1933 of the geographical areas, it is noted that the incidence of all cases of sickness for Iraq at 991 per 1,000 is highest, and compares with the average incidence of 880 per 1,000 for all areas abroad. If only admissions to hospitals and sick quarters are considered, the Iraq area again records the highest incidence at 710 per 1,000, compared with an average incidence of 552 for all areas abroad. Iraq also shows the highest incidence for final invalids, for invalidings to the United Kingdom, for the number of sick daily, for the average duration of each case in days, and for the average number of days' sickness per head both including and excluding 48-hours cases. These figures appear to demonstrate that Iraq is the least healthy of the areas abroad, and that it is necessary to retain cases in hospital for a longer period to effect recovery. The death incidence in Iraq is lower at 4·0 compared with 7·6 per 1,000 for India.

(ii) Comparing 1933 with 1932, the case incidence in the Mediterranean Littoral shows an increase ; that for India and Iraq a decrease, if 48-hours cases are included, and an increase if these cases are excluded. Particularly is this noted with regard to Iraq for admission to hospitals and sick quarters.

78. Table XV, page 59, analyses by age groups of airmen, total airmen, officers and the total force abroad, certain diseases which, considering the experience of previous years, have been shown by the chief nosological table to have been the principal causes of medical non-effectiveness abroad. Table XV is comparable with table XIII, page 50, for the force at home, with the exception of the diseases, dysentery, malaria and sandfly fever, and it also serves as a means of analysing in detail the incidence of disease abroad in the age groups shown in table V, page 26. The incidences of the age groups, 18 and 19, and 40 and over, have not been calculated as the numbers of these age groups serving abroad are so small that no value could be placed on the figures.

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79. (i) As the incidences for influenza have been included for the first time, no comparison can be readily made by age groups with 1932 and previous years. Comparing 1933 with 1932, all ranks incidence for dysentery shows a decrease, although the officers and airmen age groups 26 and 27, and 28 and 29, show increases of incidence. The incidence of malaria shows an increased incidence for all ranks and all age groups, with the exception of airmen age group, 20 and 21, which records a decrease. The incidence of sandfly fever for all ranks shows a decrease. In the age groups, the only increases of the incidence of sandfly fever are in the officers group and the airmen age group, 35 to 39. The incidence for all ranks of venereal disease remained almost the same in 1933 as in 1932, but the incidences of the various age groups fluctuated compared with 1932, airmen of ages 20 to 23 being highest, thus differing from 1932.

(ii) During 1933, for all ranks, of the diseases and groups of disease analysed, injuries show the highest disability incidence with 83·4 per 1,000, followed by upper air passage infections with 71·0 per 1,000. Total disabilities case incidence is highest in the airmen age group, 28 and 29, and lowest in the airmen age group, 35 to 39. The incidence of all disabilities in the various age groups is very irregular and shows no pronounced trend to a high or low incidence in the age groups. The high incidence of dysentery, 12·8 per 1,000 in the officers group, is marked compared with an incidence of 6·7 per 1,000 for all ranks, and the low incidence of venereal disease of 7·8 per 1,000 in the airmen age group, 35 to 39, compared with an incidence of 21·9 per 1,000 for all ranks.

80. Chart 2, facing page 52, shows the monthly case incidence per 1,000 of strength of sickness abroad during 1933, compared with the two preceding periods. The curve of 1933 follows more or less the same course as in 1932 with the exception of May and July, which are definitely higher than in 1932. May shows the highest increase of incidence, and during this month the combined total incidence for malaria and sandfly fever was increased. The peak is reached in August during 1933, as in the period 1927–1932.

Notes on Diseases

81. *Dysentery, malaria and sandfly fever.*—(i) Table VII, page 28, among its other functions analyses the relative incidence of tropical diseases in geographical areas abroad. Table XVI, page 60, analyses the incidences of dysentery, malaria and sandfly fever at the principal stations abroad, and also shows the percentage of all diseases attributable to each, and their combined incidence compared with all other diseases. Table XVII, page 61, shows the number of cases of dysentery, malaria and sandfly fever at each station abroad, and also differentiates between primary and relapse cases of malaria, and the various types of dysentery. In India, a new station, Lower Topa, was included

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in the analysis for the first time. In table XVIII, page 62, the number of cases monthly of dysentery, malaria and sandfly fever are shown by geographical areas abroad, divided for dysentery and malaria to show the number of primary and the total cases. The table also shows the case incidences of these divisions for 1933, compared with the average incidences of the two preceding periods.

(ii) (*a*) Abroad, the incidence of dysentery decreased from 8·6 in 1932 to 6·7 per 1,000 in 1933. The decrease is accounted for by decreases in the number of cases, from 24 in 1932 to 15 in 1933, showing a decreased incidence to 7·4 in 1933 compared with 11·5 per 1,000 in 1932 for Iraq, and for India 43 to 27 cases and incidences of 20·9 to 12·8 per 1,000 for 1932 and 1933 respectively. In the Mediterranean Littoral, there was an increase of cases from 9 to 17 in 1933, representing an increase in incidence from 2·3 to 4·2 per 1,000 in 1933.

(*b*) The incidence of malaria abroad increased in 1933 to 48·6 from 32·1 per 1,000 in 1932. In 1933 the Mediterranean Littoral shows an increase of 66 cases of malaria, representing an increase of incidence of 15·6 from 20·5 in 1932 to 36·1 per 1,000 in 1933. This increased incidence is almost solely due to an increase of malarial incidence in Egypt. Iraq shows an increase of 9 cases, giving an increased incidence of 25·8 in 1933 compared with 20·6 per 1,000 in 1932. India records an increase of 87 cases representing an increase of incidence from 70·8 in 1932 to 110·5 per 1,000 in 1933.

(*c*) During 1933, the incidence of sandfly fever decreased to 40·0 from 47·0 per 1,000 in 1932. There was little change in the number of cases and the incidence in the Mediterranean Littoral, comparing 1933 and 1932. In Iraq, the number of cases of sandfly fever decreased to 202 in 1933 from 248 in 1932, representing a decrease in the incidence to 100·1 in 1933 from 118·7 per 1,000 in 1932. In India, there was a decrease of eleven cases from 1932, and the incidence fell to 35·6 in 1933 from 41·7 per 1,000 in 1932.

(iii) (*a*) Considering the incidence of these diseases at stations abroad, the occurrence of five cases of clinical dysentery at Aboukir in 1933, compared with no case in 1932 is noted. The reduction of the incidence of dysentery in India in 1933 from 1932 was accounted for, chiefly, by the number of cases at Quetta being reduced from 20 in 1932 to 6 in 1933. Kohat showed 4 cases in 1933, and none in 1932.

(*b*) The increase in the incidence of malaria was spread fairly generally over all the stations in the Mediterranean Littoral. In India, the increased malarial incidence showed itself, mainly, at Peshawar and Quetta and to a lesser extent at Risalpur and Karachi.

(*c*) As regard sandfly fever, the increase of the number of cases at Aden from no case in 1932 to 10 cases in 1933, and the decrease in cases at Lahore from 24 in 1932 to 6 in 1933 are noted.

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(iv) The marked prevalence of the bacillary type of dysentery at stations in India is observed.

(v) The monthly case incidences of these diseases in 1933 follow closely those of 1932. In India a very high incidence of malaria is recorded in October. In 1932 and 1931 the peak of malarial incidence was reached in September. The lessened incidence of dysentery in India is shown to be spread over the months. The peak of the sandfly fever incidence, in both Iraq and the Mediterranean Littoral, was reached in August.

82. *Diseases of the enteric group.*—In 1933 ten cases of this group of disease occurred compared with 8, 27 and 13 in 1932, 1931 and 1930 respectively. The incidence of the group rose to 1·1 in 1933 from 0·9 per 1,000 in 1932. The maintenance of this incidence at so low a figure in 1933 is very satisfactory. There were no deaths or final invalids. One case was invalided to the United Kingdom.

(i) *Typhoid fever.*—Two cases occurred in 1933 compared with four in 1932. One case was an officer of the Fleet Air Arm based on Kai Tak, China, and the other case an airman in Iraq. Both cases were returned to duty within the respective commands. One case remaining under treatment in Iraq from 1932 was invalided to the United Kingdom during 1933.

(ii) *Paratyphoid A. fever.*—In Iraq, one case of paratyphoid A. fever was notified in 1933, compared with one case from Egypt in 1932. The case was that of an officer, and he was remaining under treatment within the Iraq command at the end of 1933.

(iii) *Paratyphoid B. fever.*—In 1933 two cases, one in Iraq and one in Hong Kong occurred, compared with one case from Transjordan in 1932. The Iraq case was returned to duty while the Hong Kong case was remaining in hospital at the end of 1933. There was also one case who was remaining from 1932, returned to duty during the year.

(iv) *Paratyphoid C. fever.*—One case occurred in Iraq, and was fit for duty during the year. No case occurred in 1932.

(v) *Clinical enteric group.*—Cases which show clinical signs and symptoms of one of the enteric group fevers but which are not diagnosed bacteriologically are recorded under this heading. In 1933 four such cases occurred compared with two cases in 1932. Three of the cases were stationed in India and one in Iraq. All four cases, together with one case remaining under treatment from 1932, were returned to duty in their commands during the year.

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83. *Acute enteritis and acute gastro-enteritis.*—The incidence of these cases in 1933 was 27·0 compared with 29·5 per 1,000 in 1932. This represents a fall in the number of cases from 260 to 243 in 1933. There were no deaths or invalids.

84. *Heat exhaustion, heatstroke and heat hyperpyrexia.*—(i) Seven cases occurred, compared with eight in 1932. Two of the seven cases were officers, and two each were stationed in India, Iraq and Aden, and the remaining case was in the Fleet Air Arm in the Far East. Three deaths occurred, two in Iraq and one in India. There were no invalids. The remaining four cases, with one case remaining under treatment into 1933 from 1932, were returned to duty. None of these four fresh cases was serious.

(ii) Of the two fatal cases in Iraq, one was caused by exposure to the sun while flying from Hinaidi to Shaibah. It was necessary to fly at a low altitude on account of a dust storm. The patient was wearing his Service sun-helmet during the journey, and appeared normal on arrival at Shaibah, but he reported sick the following morning, and died within six days. The other fatal case was that of an airman who was employed in the coppersmith's shop for the three months previous to the occurrence of the disease. During this period the temperature varied between 84° and 96° F. in the shop, and no other airmen working there complained of undue heat. Enquiry revealed that this airman always wore his sun-helmet, and at no time exposed himself unduly to the sun, even during games. In the fatal case in India there was a history of the patient exposing himself to the effects of the sun by going for a walk without his sun-helmet.

85. *Influenza.*—There was an increase in the number of cases from 117 in 1932 to 179 in 1933, representing an increase of incidence from 13·3 to 19·9 per 1,000 in 1933.

86. *Upper air passage infections.*—The incidence of acute upper air passage infections in 1933 was lower at 71·0 compared with 79·6 per 1,000 in 1932. This incidence includes cases of acute tonsillitis.

87. *Psychoneurosis.*—During 1933, there were 22 cases of psychoneurosis, compared with 20 cases in 1932. The incidence per 1,000 of strength was only 0·1 higher in 1933 than 1932. Fifteen cases were invalided to the United Kingdom and six invalided from the Service during 1933, compared with eight and two respectively in 1932.

88. *Otitis media.*—(i) There were 25 acute cases, giving an incidence of 2·8 per 1,000, compared with 29 cases and an incidence of 3·3 in 1932. One case was invalided to the United Kingdom.

(ii) Sixteen chronic cases occurred, representing an incidence of 1·8, which compares with four cases and an incidence of 0·5 per 1,000 in 1932. Six cases were invalided to the United Kingdom and two out of the Service.

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89. *Acute rheumatism.*—During 1933, eight cases of acute rheumatism occurred, giving an incidence of 0·9, compared with nine cases and an incidence of 1·0 per 1,000 in 1932. There were two cases remaining under treatment from 1932. There were no deaths, one invaliding to the United Kingdom, and the case remaining from 1932 was invalided out of the service.

90. *Diseases of the heart.*—During 1933, 21 cases of diseases of the heart were notified, giving an incidence of 2·3 per 1,000. These figures compare with 9 cases and an incidence of 1·0 per 1,000 in 1932. The 21 cases consisted of, 16 " disordered action," three disease of the myocardium, and two valvular disease.

91. *Injury.*—The incidence of injury in 1933 was 83·4, compared with 79·2 per 1,000 in 1932. There were 26 deaths, eleven invalidings to the United Kingdom, and one final invalid compared with 27, 17, and one respectively in 1932.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.											
		Influenza.	Dysentery.	Malaria.	Sandfly fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen:—													
18 and 19	29	*	*	*	*	*	*	*	*	*	*	*	*
20 and 21	812	19·7	6·2	19·7	41·9	82·5	28·3	9·9	53·0	209·4	470·4	80·0	550·4
22 and 23	1,958	18·9	4·6	36·3	49·5	83·2	33·2	19·9	46·0	194·1	485·7	96·5	582·2
24 and 25	2,124	13·2	4·2	54·1	40·0	68·3	20·7	14·1	39·1	203·4	457·2	93·2	550·4
26 and 27	810	19·8	9·9	75·3	40·7	64·2	19·8	19·8	53·1	202·5	504·9	100·0	604·9
28 and 29	409	34·2	9·8	78·2	34·2	68·5	17·1	26·9	46·5	246·9	562·3	58·7	621·0
30 to 34	1,098	22·8	7·3	55·6	29·1	55·6	20·9	14·6	37·3	170·3	413·5	53·7	467·2
35 to 39	513	25·3	5·8	39·0	27·3	60·4	7·8	29·2	40·9	144·2	380·1	54·6	434·7
40 and over	225	*	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages ..	7,978	19·2	5·9	48·1	39·5	70·2	23·1	17·9	44·1	194·5	462·5	81·5	544·0
Officers, all ages ..	1,016	25·6	12·8	52·2	44·3	77·8	12·8	19·7	58·1	211·6	514·8	98·4	613·2
All ranks, abroad 1933	8,994	19·9	6·7	48·6	40·0	71·0	21·9	18·1	45·7	196·5	468·4	83·4	551·8
All ranks, abroad 1932	*8,824*	*13·3*	*8·6*	*32·1*	*47·0*	*79·6*	*21·6*	*16·1*	*40·1*	*176·4*	*434·8*	*79·2*	*514·1*
All ranks, abroad 1931	*8,956*	*21·9*	*8·6*	*37·4*	*50·7*	*81·8*	*25·8*	*15·2*	*38·2*	*175·2*	*454·8*	*76·6*	*531·3*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD. 1933.

Command and station.	Average strength	Number of cases.						Percentage of total number of cases of disease at stations.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Sandfly fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Dysentery, malaria and sandfly fever.	All other diseases.	All diseases.
Egypt.															
Aboukir ..	701	5	49	1	55	165	220	2·3	22·3	0·4	25·0	75·0	79	235	314
Abu Sueir ..	397	2	32	9	43	157	200	1·0	16·0	4·5	21·5	78·5	108	396	504
Cairo and Heliopolis	617	—	17	14	31	246	277	—	6·1	5·1	11·2	88·8	50	399	449
Aden.															
Aden and Khormaksar	406	—	2	10	12	218	230	—	0·9	4·3	5·2	94·8	30	537	567
Iraq.															
Hinaidi ..	1,383	7	13	155	175	692	867	0·8	1·5	17·9	20·2	79·8	127	500	627
Basrah and Shaibah	375	6	30	34	70	210	280	2.1	10.7	12·2	25.0	75·0	187	560	747
India.															
Karachi ..	540	4	33	3	40	292	332	1·2	9·9	0·9	12·0	88·0	74	541	615
Mediterranean.															
Calafrana ..	358	1	—	14	15	154	169	0·6	—	8·3	8·9	91·1	42	430	472
Far East															
Singapore ..	354	—	1	—	1	140	141	—	0·7	—	0·7	99·3	3	395	398

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TABLE XVII.—DYSENTERY, MALARIA AND SANDFLY FEVER AT STATIONS ABROAD, 1933.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Sandfly fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aden ..	406	—	—	—	—	—	—	—	—	1	2	10
Aboukir ..	701	5	5	—	—	—	—	5	5	31	49	1
Abu Sueir ..	397	—	—	2	2	—	—	2	2	23	32	9
Amman ..	227	—	—	—	—	—	—	—	—	1	1	5
Cairo and Heliopolis	617	—	—	—	—	—	—	—	—	13	17	14
Calafrana ..	358	—	—	—	1	—	—	—	1	—	—	14
Helwan ..	163	—	—	—	—	—	—	—	—	6	6	4
Ismailia ..	222	—	—	—	—	—	—	—	—	9	12	7
Khartoum ..	193	1	1	2	2	3	4	6	7	17	20	11
Ramleh ..	249	—	—	—	—	—	—	—	—	1	3	2
Various small stations and drafts *en route* ..	509	—	—	2	2	—	—	2	2	3	4	5
Total ..	4,042	6	6	6	7	3	4	15	17	105	146	82
India.												
Ambala ..	161	—	—	1	1	—	—	1	1	17	23	5
Karachi ..	540	2	2	2	2	—	—	4	4	27	33	3
Kohat ..	217	—	—	4	4	—	—	4	4	16	25	12
Lahore ..	160	—	—	—	—	—	—	—	—	6	10	6
Lower Topa..	171	—	—	—	—	—	—	—	—	2	12	3
Peshawar ..	180	2	2	3	3	—	—	5	5	27	29	26
Quetta ..	316	—	—	6	6	—	—	6	6	51	67	—
Risalpur ..	247	2	2	2	3	—	—	4	5	9	12	11
Various small stations ..	117	1	1	1	1	—	—	2	2	16	22	9
Total ..	2,109	7	7	19	20	—	—	26	27	171	233	75
Iraq.												
Basrah ..	202	—	—	—	—	5	5	5	5	20	27	24
Hinaidi ..	1,383	—	—	7	7	—	—	7	7	8	13	155
Mosul ..	218	1	1	1	1	—	—	2	2	8	9	13
Shaibah ..	173	—	—	1	1	—	—	1	1	3	3	10
Various small stations ..	41	—	—	—	—	—	—	—	—	—	—	—
Total ..	2,017	1	1	9	9	5	5	15	15	39	52	202
Fleet Air Arm abroad ..	406	—	—	1	1	—	—	1	1	2	2	1
Far East.												
Singapore ..	354	—	—	—	—	—	—	—	—	1	1	—
Other stations	66	—	—	—	—	—	—	—	—	3	3	—
TOTAL: All stations abroad	8,994	14	14	35	37	8	9	57	60	325	437	360

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TABLE XVIII.—DYSENTERY, MALARIA AND SANDFLY FEVER ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery.						Malaria.						Sandfly fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	—	—	2	2	—	—	2	3	4	8	1	2	4	—	—
February	1	1	—	—	—	—	4	4	2	4	1	2	3	—	—
March	4	4	—	—	1	1	1	2	2	4	—	3	2	2	—
April	—	—	3	4	2	2	3	4	—	1	2	2	5	6	5
May	2	3	6	6	3	3	3	5	2	6	3	4	6	15	34
June	2	2	3	3	1	1	11	14	4	10	11	13	7	8	24
July	1	1	2	2	—	—	11	16	11	19	4	5	16	19	31
August	2	3	1	1	2	2	18	31	30	41	2	2	19	11	48
September ..	—	—	3	3	2	2	23	27	27	34	3	4	12	5	38
October	2	2	4	4	1	1	17	25	56	64	4	6	5	3	21
November	1	1	—	—	3	3	4	5	27	33	6	7	1	4	1
December	—	—	2	2	—	—	8	10	6	9	2	2	2	2	—
1933 Total ..	15	17	26	27	15	15	105	146	171	233	39	52	82	75	202
Case incidence per 1,000 of strength															
1933	3·7	4·2	12·3	12·8	7·4	7·4	26·0	36·1	81·1	110·5	19·3	25·8	20·3	35·6	100·1
1927–32	*4·5*	*4·9*	*14·6*	*16·2*	*9·8*	*11·0*	*21·2*	*37·2*	*73·9*	*152·7*	*26·6*	*46·5*	*33·2*	*51·6*	*110·1*
1921–26	*9·2*	*11·6*	*11·8*	*19·0*	*32·0*	*38·4*	*11·4*	*26·5*	*116·1*	*255·7*	*60·3*	*130·1*	*54·8*	*64·6*	*238·0*

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CHAPTER IV.—SPECIAL DEPARTMENTS

Medicine

92. (i) *General.*—The statistics on medical diseases are fully dealt with in Chapters I, II and III. At Ser Amadia, Iraq, in July, there occurred a mild outbreak of food poisoning which necessitated the admission of six cases to sick quarters. In addition, a number of cases complained of mild diarrhoea and vomiting, which soon cleared up after treatment as out-patients. The investigation showed that the cause of the outbreak was diseased potatoes.

(ii) *Research and investigation.*—(*a*) The results of research on normal blood pressure and its underlying factors of variation and causation have been published. Other questions which have been dealt with during the year include: the standard of physical fitness necessary in high-speed pilots and the effect of centrifugal force on the crews of high-speed aircraft and means of mitigating this effect.

(*b*) Further research has been carried out on the relationship between body-build and physical efficiency of air force personnel.

(*c*) Research has been continued in connection with the supply of oxygen to persons flying at great height. During the year, aspects of this subject that have been studied include: the physiological effect of sudden cessation in oxygen-supply at various heights and the application of this to persons during different sorts of work, the practicability of raising the human limit of altitude by means of physical and physiological devices, the use of oxygen at lower heights than has hitherto been customary, the need for oxygen in very high parachuting, the method of warning a pilot if the rate of oxygen-supply falls below what it should be for a given height, alternative methods of supply to the use of compressed gas in cylinders, and the design of oxygen-masks and other oxygen-supply gear.

(*d*) The special medical examinations on aircraft apprentices at Halton and Cranwell referred to in the report for 1932 were continued during the year. A decision on the practical application of the tests must wait until the investigation has been completed, which it is anticipated will not be for some considerable time.

(iii) *Teaching.*—Instruction of medical personnel in the principles underlying the use of oxygen in high flying and in the principles and practice of chemical warfare was given during the year. The routine short courses for newly-joined medical officers and the fortnightly courses for colonial and naval medical officers in the normal procedure of medical examination of Royal Air Force personnel for physical efficiency were continued during 1933.

(iv) *Examinations at the Central Medical Establishment.*—(*a*) During 1933, 482 candidates for commissions in the general duties

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branch, for entry as cadets and for training as airman pilots i.e. for appointments involving flying duties, were examined, compared with 600 candidates in 1932. The examination of these 482 candidates required 591 actual examinations, and 291—60 per cent.—were finally accepted as fit for full flying duties compared with 61 and 57 per cent. in 1932 and 1931 respectively. One hundred and seventy-two were finally and 19 temporarily rejected. Table XIX, page 77, analyses these examinations by type of candidate, and they are also included in Table XXI, page 79, which analyses the causes of rejection at all examinations carried out at the Central Medical Establishment. It will be observed from the figures of the latter table that defective vision was the most frequent cause of final rejection—35 per cent. in 1933, compared with 40 and 34 per cent. in 1932 and 1931 respectively.

(*b*) Table XX, page 78, records the average results of the physical efficiency tests and measurements of all candidates for flying duties accepted at the Central Medical Establishment and finally entering the service for the years 1933, 1932, 1931, 1930, and for the period 1925–1929. In this table, for the year 1933, the response of the pulse rate to exercise as regards the pulse rate standing is recorded by showing the rate for the " first five seconds period " and for the " lowest steady rate " to which the pulse rate falls with the subject remaining standing. In future reports also these two rates for the pulse rate standing will be recorded in this table. The pulse rate standing recorded in years previous to 1933 and for the period 1925–1929 is comparable with the " lowest steady rate " for 1933. The standing pulse rate in the " first five seconds period " is considered to be a more valuable indication of the subject's response to exercise than the lowest steady rate to which the pulse rate falls with the candidate remaining standing.

Surgery

93. (i) *General.*—During the year, a scrutiny of the surgical work performed shows that the standard of surgery continues on a high level. This state has been made possible by the provision of operating theatre and surgical equipment of the very latest type, and also by equipping special departments such as X-ray and pathological laboratories, which so aid in obtaining early diagnosis in surgical conditions with the most up-to-date equipment. The close liaison maintained between the civilian surgical consultants and the service surgeons enables the latter to keep in close touch with the latest surgical developments of the large civilian teaching schools and hospitals. During the year, five officers proceeded on study leave at civilian teaching hospitals with a view to obtaining additional surgical degrees and diplomas. These officers on completion of the courses of study are posted to units where they may be usefully employed on surgery and thus the standard of the surgery in the service is kept at a high level and abreast of the latest developments.

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Chapters I, II and III deal fully with the statistics of surgical diseases and injuries.

(ii) *Surgical operations.*—During 1933, the following surgical operations were carried out in R.A.F. hospitals at home and abroad :—

	Major.	*Minor.*	*Total.*
Home	491	900	1,391
Abroad	71	109	180
At home and abroad	562	1,009	1,571

It was found necessary to perform ten major operations at sick quarters in Iraq and four at sick quarters at home as a part of emergency treatment. These figures do not include dental operations.

(iii) *Anaesthetics.*—(*a*) At home, 1,146 general inhalation anaesthetics were administered compared with 142 abroad. The drugs most frequently used for general anaesthesia were :—

Chloroform and ether	830
Nitrous oxide	150
Nitrous oxide, oxygen and ether	101
Ethyl chloride and ether	46
Ether	36
Nitrous oxide and oxygen	30

Various other combinations of drugs were used to induce general anaesthesia.

(*b*) At sick quarters during the year a total of 84 general anaesthetics was given, and the drugs most favoured were—nitrous oxide on 59 occasions, chloroform and ether on 13 occasions, and ether eleven times.

(*c*) Percaine was used in two cases to induce spinal anaesthesia.

(*d*) In R.A.F. hospitals the drug most employed in administering local anaesthesia was percaine, followed in order of frequency by novocaine and cocaine. At sick quarters, ethyl chloride was used most frequently for inducing local anaesthesia.

These figures do not include anaesthetics used to perform dental operations.

(iv) *Radiological departments.*—The following record of examinations carried out in the radiological departments of R.A.F. hospitals gives a concise indication of the value of these departments.

	Home.	*Abroad.*	*Total.*
General	3,222	1,134	4,356
Opaque meals	118	46	164
Opaque enema	13	3	16
Cholecystography ..	17	11	28
Pyelography (intravenous)	16	8	24
Chest (Lipiodol) ..	6	—	6

These figures do not include radiological examinations at the Royal Air Force Dental Centre, Uxbridge.

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(v) *Massage and electro-therapeutic departments.*—These departments do very valuable work, especially in the treatment of injuries, a frequent disability in a service like the Royal Air Force, and thus lessen the period of non-effectiveness due to sickness. The following treatments were carried out in R.A.F. hospitals at home and abroad.

	Home.	*Abroad.*	*Total.*
Massage treatments and exercises	13,576	4,904	18,480
Electrical treatments (excluding radiant heat) ..	5,352	2,357	7,709
Radiant heat	3,348	957	4,305

These figures include both patients in hospital and out-patients.

(vi) *Ear, Nose and Throat Department attached to R.A.F. Officers' Hospital, Uxbridge.*—In the report for 1932, a full record of the work carried out in this department was given. During 1933, the excellence of the work done in this department has continued. The concentration of the treatment of ear, nose and throat conditions at one centre at home as far as possible has been completely justified especially with regard to the treatment of families. The provision of a X-ray sinus apparatus has enabled accurate radiographic diagnosis of the accessory nasal sinuses to be made.

(*a*) *Out-patients.*—Six hundred and thirty examinations of out-patients were carried out during 1933, and of these, 228 were new patients and 402 represent subsequent attendances for examination and treatment.

(*b*) *Operations.*—One hundred and nine operations for the treatment of ear, nose and throat conditions were performed on officers and 132 on airmen and families, making a total of 241 for the year. The operations most frequently carried out were :—

	Officers.	*Airmen and Families.*	*Total.*
Enucleation of tonsils and adenoids	25	55	80
Proof puncture and lavage of maxillary sinuses ..	46	32	78
Intra-nasal antrostomy ..	11	12	23
Submucous resection of septum	10	11	21

(*c*) *Anaesthetics.*—The drugs used to induce anaesthesia and the methods of administration were as follows :—

Chloroform and ether—general anaesthesia	75 cases.
Evipan sodium intravenousley	10 cases.
Local anaesthesia	156 cases.

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The local anaesthetic employed was percaine, 2 per cent. for surface anaesthesia and 0·5 per cent. for infiltration purposes. To this was added 1/1,000 Adrenalin Hydrochloride. It was observed that in traumatic cases percaine did not give adequate ischaemia, and therefore cocaine had to be used.

In all cases of local anaesthesia, premedication was obtained by giving Nembutal grs. 1½–3 orally in conjunction with morphia gr. ¼ to 1/6, atropine gr. 1/100 one hour before the operation or with omnopon-scopolamine—1/3 to 2/3 grs. and 1/150 gr. respectively. Any feeling of apprehension was abolished, and in many cases, especially with scopolamine-morphine, complete amnesia of the operation was observed.

In the latter part of the year evipan sodium intravenously was used for the removal of tonsils. In selected cases perfect anaesthesia with complete relaxation was obtained with 8–10 c.c. for a period lasting for eighteen minutes. It has been observed that in the heavily built individual who is a heavy smoker and indulges in alcohol, evipan sodium intravenously did not give complete surgical anaesthesia with total abolition of pharyngeal reflex. In these cases ether has to be supplemented. There have been no untoward occurrences with the above technique.

Hygiene

94. (i) *General remarks.*—During 1933, "Medical Notes and First Aid Treatment for Flights in the Tropics and Sub-Tropics" has been written and issued in book form as an air publication (A.P. 1486). This publication contains advice for non-medical personnel as to the hygiene measures to be adopted in the tropics and sub-tropics.

(ii) *Conservancy.*—Aden—As anticipated in the report for 1932, the conservancy at Aden has been taken over from the Aden Settlement authorities by the Royal Air Force and thus a considerable estimated saving will be effected.

(iii) *Temperature of quarters.*—(*a*) Investigations into the temperature of quarters with an increased window space have been conducted in Iraq. The conclusion has been reached that such rooms are not hotter than those with the usual windows. They are, moreover, naturally brighter and more cheerful. The custom of darkening windows has, therefore, been discouraged, and it has been recommended that the darkening of rooms, necessary for the satisfactory resting in the heat of the afternoon, should be achieved by means of curtains.

(*b*) At the R.A.F. Hospital, Hinaidi, the introduction of special cooling fans in 1932 has been found to be of great assistance in the nursing of special cases. During 1933, additional fans were installed in the heatstroke centre and in the medical and surgical wards of the hospital.

(iv) *Water supply.*—(*a*) The water supply at Sealand, which has been unsatisfactory over a period of two years, has now been improved to leave no doubt as to its potability.

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(*b*) A large number of tests on the sterilization of water by the Chloramine process has been carried out in Iraq. As a result of these tests, it was decided to use this method in dealing with the water supply of Hinaidi cantonment.

(v) *Research and investigation.*—(*a*) *The diet of aircraft apprentices.*—The diet of aircraft apprentices as issued was carefully investigated, and, although it was found to be of good quality and caloric value, certain defects were found. The chief defects were the absence of butter or guaranteed vitaminised margarine, and a somewhat too small ration of carbohydrate and first-class protein. The question of the means of remedying these defects is still under consideration.

(*b*) *Purification of swimming baths.*—The swimming bath at Halton, as elsewhere, became so popular during the phenomenally hot summer of 1933, that there was a tendency to overcrowding. This threw much extra work on the filtering and purification plant, so that considerable modifications were needed to keep the water up to the required bacteriological standard of purity. Close co-operation between the laboratory and works services helped to rectify the defect, and the question of the best means of purifying swimming bath waters throughout the service is being investigated.

(*c*) Other matters which have been investigated include the effect of carbon monoxide on aircraft crews and the means of avoiding this, and the principles of ventilation of aircraft cabins.

(vi) *Notes on special diseases in relation to hygiene.*—(*a*) *Chicken pox.*—There was a small outbreak of this disease on board H.T. " Somersetshire " on her outward voyage in October, 1933.

(*b*) *Diphtheria.*—One case occurred at Hinaidi, Iraq. The steps taken to prevent the spread of the disease were successful—no further case occurred.

(*c*) *Malaria.*—There has been an increase in the incidence of primary malaria at stations in Egypt, in spite of the prosecution of vigorous anti-malarial measures. This increase has been the subject of a special investigation and has been ascribed to a periodic wave affecting the country as a whole.

(*d*) *Schistosomiasis.*—One case, attributed to bathing at Erbil, Iraq, occurred in an airman shortly after his arrival, on posting, in Egypt.

(*e*) *Tetanus.*—A fatal case of tetanus occurred at Hornchurch due to an abrasion of the knee, received when playing football.

(vii) *Summer Training Camp—Iraq.*—The summer training camp at Ser Amadia again proved a success in 1933. Accommodation was, for the first time, provided for two nursing sisters. The health of the personnel was good with the exception of a mild outbreak of food poisoning due to diseased potatoes, and affecting about thirty per cent. of the personnel.

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(viii) *Assyrian Refugees.*—(*a*) Owing to the disturbances in the north of Iraq, a number of dependents of men serving in the Iraq Levies was accommodated in Hinaidi Cantonment. The majority were transported by air to Hinaidi. All were medically inspected, vaccination was carried out, and a medical officer was detailed to assist the Senior Medical Officer, Iraq Levies. The only infectious cases occurring amongst the refugees were 29 cases of whooping-cough.

(*b*) There was another concentration camp at Mosul of Assyrian refugees numbering about 1,900 personnel with a R.A.F. medical officer in charge. No serious outbreak of illness occurred.

(ix) *Teaching.*—(*a*) At the R.A.F. Pathological Laboratory, Halton, courses of instruction in general field sanitation and hygiene—each course lasting a fortnight—were given to 700 aircraft apprentices and airmen.

(*b*) The members of the public health class of the London School of Hygiene and Tropical Medicine (London University) paid their annual visit to Halton for instruction in service hygiene in February, 1933. One medical officer received instruction at Halton and passed the first part of the Diploma of Public Health (England).

(*c*) *Hygiene section—Royal Air Force Depot.*—The work carried out by this section has been on similar lines to previous years. The total number of miniature and full-size models for instructional purposes is now 103. All disinfection of clothing, bedding, quarters, etc., required by Uxbridge, Ruislip, West Drayton, Ickenham and Northolt stations is carried out under the supervision of the staff of this section.

During 1933, 135 acting pilot officers undergoing a disciplinary course at this depôt on joining the service have been given instruction in simple methods of camp sanitation, general hygiene and the preservation of health in the tropics. Demonstrations of models were also given.

Five hospital orderlies underwent a three months' course with a view to re-mustering to sanitary assistant. All were successful in passing the examination and have since been re-mustered.

Twenty-one aircraft hands selected for sanitary duties at training camps were given two weeks' instruction in hygiene and field sanitation. Lectures were also given at intervals to the recruits arriving at this depôt.

Fifty-eight hospital orderlies under training have attended a six weeks' course of lectures on hygiene and sanitation, before proceeding to the Medical Training Depôt, Halton.

In addition to the above, 109 officers and airmen visited this section during the year. They were shown round the museum by the staff who explain and demonstrate the models.

Officers attending the Royal Air Force Depôt for promotion examinations come in parties to see the models demonstrated, and find the instruction very helpful.

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Pathology

95. (i) *Laboratory work.*—The total number of routine specimens examined in R.A.F. Pathological and Clinical Laboratories in the United Kingdom and abroad, during 1933, amounted to 51,487, a figure slightly higher than that of the previous year (48,758). A synopsis of the work done in each laboratory is shown in table XXVIII, page 87. During the year the laboratory at Princess Mary's R.A.F. Hospital, Halton, was enlarged and graded up from a clinical to a pathological laboratory carrying out the full pathological work of that hospital. No special report has been submitted by any of the laboratories outside Halton. During the year, as far as funds would permit, provision of the most up-to-date laboratory equipment has been made, in the first instance to the R.A.F. Pathological Laboratory, Halton, and, if proved of value, the other laboratories are equipped in turn.

(ii) *Teaching.*—At the R.A.F. Pathological Laboratory, Halton, two officers received advanced instruction in pathology, bacteriology and tropical medicine; one of these officers thereafter obtained the Diploma in Tropical Medicine and Hygiene (London). Ten newly-recruited medical officers underwent a two months' course in pathology, hygiene and tropical medicine. Three airmen received a year's special training in general laboratory work and qualified as laboratory assistants.

(iii) *Research and investigation.*—(*a*) *Influenza.*—During the epidemic of influenza in January and February, 1933, the opportunity was taken to try the effect of inoculating half the aircraft apprentices at Halton with anti-influenza vaccine, leaving the other half as controls. The boys, numbering 1,488, were of strictly comparable age groups, between 15 and 18 years, and were living under identical conditions of housing, feeding, work and recreation. Observations were made specially with regard to the case incidence; the number of days pyrexia; the average degree of pyrexia during the actual febrile period; and the incidence of complications. Full details of this investigation together with bacteriological observations are being published as a separate report. It may be briefly stated that the vaccine appeared to have little or no effect on the case incidence; the number of days pyrexia; the degree of pyrexia; or on the incidence of complications.

(*b*) *Diphtheria and scarlet fever.*—The position of diphtheria and scarlet fever in boys' training establishments was reviewed with special reference to bacteriological observations, including Schick and Dick testing, during the past eight years. It was found that about 30 per cent. of aircraft apprentices, aged between 15 and 18 years, were non-immune to diphtheria, and that 24 per cent. were non-immune to scarlet fever. The average case incidence for the past 10 years for these diseases amongst aircraft apprentices, however, was low.

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In view of the large number of unprotected individuals in boys' training establishments, together with the potential danger of an epidemic and the relatively high cost of the old system of isolation of contacts, it was decided to Schick and Dick test all new entrants, and to give protective inoculation to all non-immunes. This procedure was officially instituted, therefore, with the September, 1933, entry of aircraft apprentices at Halton. There were no ill-effects from the inoculations, and there has been no case of scarlet fever or diphtheria amongst this entry to date.

Physical Efficiency of Serving Officers, Cadets and Airman Pilots of the Royal Air Force

96. (i) Three thousand eight hundred and twenty-five officers, cadets and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches during the year 1933. This number consists of 2,165 officers of the general duties branch liable for flying duties as pilots of aircraft and 385 not so liable on account of age or type of employment ; 708 officers of the ancillary branches, who only require to be fit for general service and to fly as passengers ; 110 cadets and 457 airman pilots who should be fit for full flying duties.

(ii) Of the 2,165 officers of the general duties branch liable for flying duties as pilots, 1,989 (92 per cent.) were found fit for flying duties, i.e., as pilots without any restrictions. Of these 2,165 officers, 1,387, being under 30 years of age, are required by their conditions of service to be fit for full flying duties as pilots. Ninety-five per cent. (1,311) of these 1,387 officers were found to be fit for this duty. Of the 778 officers over 30 years of age, 87 per cent. (678) were also fit for flying duties as pilots without any restrictions. Table XXII, page 80, compares the percentage of officers of the general duties branch liable for flying duties, found fit for full flying duties during the years 1922 to 1933 inclusive. The percentage varies within small limits year by year, and the high fit percentage (92 per cent.) in 1933 is considered very satisfactory. Tables XXIII and XXIV, pages 81 and 82 respectively, analyse the responses to the standard physical efficiency tests of the 2,165 officers of the general duties branch liable for flying duties. For the first time in these reports, Table XXIV shows the response of the pulse rate to exercise by recording the rate standing for the " first five seconds period " and the " lowest steady rate " to which the pulse rate falls with the subject remaining standing. The " pulse rate standing " recorded in this table in former years is comparable with the " lowest steady rate " of the table for 1933. It is considered that the standing pulse rate in the " first five seconds period " records a more reliable guide to the subject's response to exercise than the " lowest steady rate " to which the pulse falls. In future years both these figures for the pulse rate standing will be shown in this table. Table XXV, page 84, analyses at home and abroad

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the reasons of unfitness of the 176 officers of the general duties branch liable for flying duties, and found unfit for full flying duties. As in 1932, it is noted that the causes of unfitness are on account of medical and surgical conditions in almost equal proportion followed by defects of vision. Of these 176 officers unfit for full flying duties as pilots, 106 were fit as pilots but with some restriction as to duration and altitude of flight, the extent of aerobatics which they may carry out, the type of aircraft they may pilot and in certain cases they were limited as to their fitness for flying in oversea commands. In addition to these 106 officers fit for limited flying only, 21 officers were temporarily unfit at the date of the examination, so that of the 2,165 officers liable for flying duties, 2,095 (97 per cent.) were fit to pilot aircraft. 385 officers of the general duties branch, over 40 years of age, in whom fitness for flying as pilots of aircraft is not essential, were examined during the year, and of these 241 (63 per cent.) were found to be fit for full flying duties and 286 (74 per cent.) fit as pilots of aircraft.

(iii) One hundred and ten cadets were examined for their fitness to fly as pilots during the year, and of these one hundred and five were found fit for full flying duties, four fit for full flying duties at home only and one fit for limited flying at home only. Tables XXIII and XXIV, pages 81 and 82, analyse the responses of the cadets to the standard physical efficiency tests.

(iv) Four hundred and forty-nine (98 per cent.) out of 457 airman pilots were fit for full flying duties, Of the eight found unfit for these duties, five were, however, fit to act as pilots of aircraft, but with restrictions as to altitude and duration of flight, aerobatics, and in home commands only. Tables XXIII and XXIV analyse the responses of the airman pilots to the standard physical efficiency tests used in the examination for fitness to fly.

(v) During 1933 seven hundred and eight officers of the branches other than the general duties branch, who must be fit for general service and to fly as passengers, were examined, and 669 (94 per cent.) were found fit for their full duties, while 33 of the thirty-nine officers found unfit were nevertheless fit for full duty but at home only.

Medical Examination of Recruits

97. (i) The same arrangements regarding recruiting held during 1933 as in 1932. Airman recruits were medically examined at the London Recruiting Depôt, either as direct applicants or referred there for final examination by civilian medical practitioners and R.A.F. medical officers. Only candidates who are considered fit are sent for final examination to the London Recruiting Depôt. Candidates for entry as aircraft apprentices and apprentice clerks are examined at Halton and Ruislip respectively, by R.A.F. medical officers under arrangements made by the principal medical officers of the respective areas.

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(ii) (*a*) During 1933, 1,773 medical examinations were carried out on candidates for enlistment as airmen compared with 2,128 in 1932. Nine hundred and thirty-four (53 per cent.) were found fit for general service, compared with 847 (40 per cent), in 1932. These 934 include 78 found fit by civilian medical practitioners and 6 by R.A.F. medical officers on preliminary medical examination, but who did not attend the London Recruiting Depôt for final examination. Thus 850 airman recruits were finally accepted as medically fit and of these 763 were attested during the year.

(*b*) At Halton, 461 (75 per cent.) out of 614 candidates were found fit as aircraft apprentices as compared with 398 (75 per cent.) out of 531 candidates in 1932.

(*c*) At Ruislip, 166 candidates were examined as to fitness for entry as apprentice clerks and 119 (72 per cent.) were found fit. This percentage of 72 compares with 46 per cent. found fit in 1932.

(*d*) The 763 recruits attested as airmen with the 461 aircraft apprentices and 119 apprentice clerks make a total intake of 1,343 in 1933, compared with 1,113 in 1932.

(iii) During 1933, 1,001 candidates as airman recruits were examined by civilian medical practitioners on preliminary medical examination and of these 412 (41 per cent.) were found definitely unfit for service. This percentage of rejected compares with 51 per cent. rejected in 1932. Of these 589 candidates found fit, 511 presented themselves for final examination at the London Recruiting Depôt, and of these 109 (21 per cent.) were rejected as unfit for service, which compares with 29 per cent. in 1932. During the year, 89 civilian medical practitioners carried out preliminary medical examinations in the provinces.

(iv) At twenty-two R.A.F. stations, 83 candidates as airman recruits were examined by R.A.F. medical officers on preliminary examination, and 22 (27 per cent.) were definitely rejected, compared with 34 per cent. rejected in 1932. Of the 61 found fit, 55 attended the London Recruiting Depôt for final examination, and eleven (20 per cent.) were rejected as unfit, compared with 37 per cent. in 1932.

(v) During the year, 689 candidates as direct applicants—airman recruits—were examined at the London Recruiting Depôt and of these 272 (39 per cent.) were rejected compared with 50 per cent. in 1932. Including the candidates sent by civilian medical practitioners and R.A.F. medical officers, a total of 1,255 were examined at the London Recruiting Depôt, and of these 392 (31 per cent.) were rejected as unfit, compared with 39 per cent. in 1932. During the year, 26 candidates were found temporarily unfit, and 13 presented themselves for re-examination, and with 2 exceptions were accepted. Out of the 850 airman recruit candidates accepted as medically fit during 1933, 60 were found to have defective colour vision and 273 had not been vaccinated.

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(vi) A guide to the efficiency of the preliminary medical examination of airman recruits can be furnished by a perusal and comparison of the percentage of rejections of candidates on final examination sent to the London Recruiting Depôt as fit by civilian medical practitioners and R.A.F. medical officers at stations. If this percentage of rejections is low, then it can be inferred that the preliminary medical examination is being well conducted and is justifying the examination. As noted above, during 1933, these percentages of rejections of considered fit recruits were 21 per cent. and 20 per cent. for civilian medical practitioner and R.A.F. medical officer examinations respectively. These percentages are considered satisfactory.

(vii) Table XXVI, page 85, analyses the numbers of airman recruit candidates finally rejected on medical grounds by cause and place of examination, and shows also the rate per 1,000 for each cause of rejection. As in 1932, loss or decay of teeth was the chief cause of rejection followed by deformities of the feet and poor physique.

(viii) During 1933, six aircraftmen and two apprentice clerks, having less than six months' service, were discharged on account of disabilities which were considered to have been present before enlistment or entry. The disabilities responsible for these discharges from the Service were :—

Defective vision	1
Spasm of ciliary muscles	1
Nervous instability	1
Epileptiform fits..	1
Nerve deafness	1
Old rheumatic carditis	1
Undescended testicle	1
Internal derangement of the knee joint ..	1

These figures compare with 3 aircraftmen and 3 aircraft apprentices discharged from the service in similar circumstances during 1932.

In addition two aircraftmen and one apprentice clerk, having less than six months' service, were invalided from the Service on account of acute rheumatic carditis, considered to have originated after enlistment or entry. These three invalids are included among the final invalids in para. 15.

Princess Mary's Royal Air Force Nursing Service

98. During 1933, the average monthly strength of the Service was 107, and 32 members—25 at home and 7 abroad—were admitted to hospital, representing 646 days sickness or an average of 6·0 days per member compared with 9·6 in 1932 and 11·1 days in 1931. The average number of sick daily was 1·8 compared with 2·8 in 1932 and 3·1 in 1931. There were no deaths in the Service during the year, and only one member was invalided from abroad to the United Kingdom. The state of health of the Service as shown by these figures is very satisfactory.

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Transfer of Casualties by Air

99. (i) During 1933, in Iraq, 159 patients were evacuated over a total distance of 23,914 miles in 80 flights, of which 25 were special flights at the request of the medical authorities and the remaining 55 were routine flights on which advantage was taken to emplane patients for evacuation to hospital. The total number of hours flying with patients emplaned was 331 hours 55 minutes. Of the eighty flights undertaken, 14 were conveying invalids to the Middle East command ex Iraq and 5 flights of Rangoon Flying Boats were in the transference of naval sick personnel from the Persian Gulf to hospital at Basrah. The types of aircraft used in Iraq were Victorias on 64 occasions, Rangoon Flying Boats on 5 and Wapitis on 11 flights. Of the eleven flights in Wapitis, the Neil Robertson stretcher outfit placed within the fuselage of the aircraft was used on 9 occasions.

(ii) In Palestine, 29 patients were transferred to hospital in 28 flights of which 14 were special flights requested by the medical authorities, the remaining fourteen being routine flights. Gordon aircraft were used on 24 occasions, 504N on two and Victorias on two flights. The total number of miles flown with patients emplaned was 2,040 miles, while on seven occasions the Neil Robertson stretcher outfit was utilised. A great variety of kind of case was transported.

Royal Air Force Reserve of Officers

100. (i) At the Central Medical Establishment, 166 candidates for the Reserve of Officers were examined during 1933, of whom 90, i.e. 54 per cent., were accepted as medically fit, compared with 73 and 69 per cent. in 1932 and 1931 respectively. Table XXI, under heading Reserves, page 79, analyses the causes of rejection, both temporary and final, of the unsuccessful candidates.

(ii) During 1933, 500 officers were examined concerning their physical fitness on similar lines and in accordance with the standards that obtain for regular officers and based upon the efficiency index in use at the Central Medical Establishment. This number of officers compares with 633 and 428 examined during 1932 and 1931 respectively. For various reasons it is not possible to examine every officer of the Reserve during each year, but an attempt is made to examine as many as possible. The examinations were carried out at the various Reserve Training Schools, at the Central Medical Establishment, and at Headquarters, No. 1 Air Defence Group. In the 40-millimetre physical efficiency test, 17 per cent. of officers compared with 33 and 43 per cent. in 1932 and 1931 respectively were found to be " above the average," 70 per cent. were " average," compared with 38 and 24 per cent. in 1932 and 1931 respectively; and 13 per cent. " below the average," compared with 29 and 33 per cent. during 1932 and 1931 respectively. The tests for convergence and ocular muscle balance are described as " very good," " good," " fair " and " poor." During 1933, 55 per cent. were described as " very

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good," 41 per cent. as " good," 4 per cent. as " fair," and in no case was the result recorded as " poor." These percentages compared with 66 and 78 as " very good," 31 and 13 as " good," 2·5 and 7 as " fair " and 0·5 and 2 per cent. as " poor " during the years 1932 and 1931 respectively.

(iii) During 1933, 723 officers attended annual training. There was one case of sickness representing five days' sickness, which compares with 22 cases and 150 days' sickness in 1932. No deaths were recorded.

Dental Treatment

101. (i) The amount of treatment completed during the year under review again shows a slight decrease compared with that of the year 1932 and is attributable to the loss of a considerable number of working hours, by reason of officers becoming non-effective owing to the grant of accumulated leave.

(ii) One new entrant to the branch attended the initial course of instruction at the Medical Training Depôt, Halton.

(iii) The standard of oral hygiene of recruits on enlistment during the year is classified as follows :—Good, 21·3 per cent. ; Fair, 56·7 per cent. ; and Neglected, 22·0 per cent.

(iv) The percentage of aircraft apprentices found free from dental caries on entry was 6·4 compared with 3·7 for the previous year, whilst the percentage in regard to airmen recruits also shows improvement, the figures being 5·4 in 1933 compared with 3·9 per cent. in 1932.

(v) The average number of fillings required per head to render aircraft apprentices and recruits dentally fit on entry was 5·9, and the average number of extractions required was 0·5.

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TABLE XIX.—RESULTS OF 591 EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 482 CANDIDATES FOR FLYING DUTIES. 1933.

Class of candidate.	Number accepted	Number rejected.		Total.	Percentage accepted.
		Finally	Temporarily.		
Cadets	136	69	2	207	66
Airman pilots	23	14	1	38	61
Short service commissions	94	62	14	170	55
Fleet Air Arm	20	8	1	29	69
Secondments from Army	4	4	1	9	44
Permanent commissions (University nominations)	14	15	—	29	48
Total	291	172	19	482	60

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TABLE XX.—CANDIDATES ACCEPTED FOR FLYING DUTIES.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Average results of tests.	Unit of measurement.	All classes of candidates (numbers accepted in each period are shown in brackets).				
		1925–29 (2,033)	1930 (406)	1931 (293)	1932 (312)	1933 (216)
Standing height ..	Cms.	175·3	175·5	176·1	175·4	176·4
Weight	Kgs.	64·4	65·4	66·7	65·6	66·0
Chest	Cms.	86·8	86·3	88·8	86·6	88·0
Vital capacity	Cc.	4,921	4,991	5,053	4,898	5,033
Breath-holding	Seconds.	78·8	82·2	84·9	83·6	86·3
Expiratory force ..	Mm. Hg.	139·5	134·1	144·3	144·9	138·0
Fatigue test	Seconds.	65·8	69·4	73·0	68·1	69·9
Systolic pressure ..	Mm. Hg.	129·9	131·1	131·2	133·7	130·5
Diastolic pressure ..	Mm. Hg.	79·0	78·1	80·1	80·7	74·9
Pulse rate :—						
Sitting	Per min.	72·1	71·9	70·4	72·1	71·6
*Standing (first 5 secs.)	Per min.					94·5
† ,, (lowest steady rate)	Per min.	79·9	81·7	80·8	83·1	81·9
After exercise ..	Per min.	104·8	105·5	103·3	106·9	106·6
Time taken to return to normal.	Seconds.	29·9	32·7	32·1	31·9	32·4

* Not recorded in previous reports.

† Comparable with "pulse, rate, standing" of previous reports.

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TABLE XXI.—CAUSES OF REJECTION BY THE CENTRAL MEDICAL ESTABLISHMENT. 1933.

Class of candidate.	(1) Vision.		(2) Ear, nose, throat and teeth.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1), (2), (3), with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	—	6	1	—	12	18	—	4	1	7	14	35
Short service commissions ..	4	28	2	4	5	10	1	10	3	12	15	64
Cadets	—	31	1	1	1	18	—	5	—	14	2	69
Reserves	2	19	—	2	9	20	2	8	2	12	15	61
Airman pilots ..	—	1	1	—	—	4	—	7	—	2	1	14
Auxiliary Air Force	—	1	—	—	2	1	—	—	—	2	2	4
Fleet Air Arm ..	—	3	—	1	1	4	—	—	—	—	1	8
P.M.R.A.F.N.S. ..	1	—	—	—	—	1	—	—	—	—	1	1
Preliminary for commissions and cadets	2	10	1	1	6	3	1	1	2	8	12	23
Others	—	—	—	3	1	—	—	1	—	1	1	5
Total ..	9	99	6	12	37	79	4	36	8	58	64	284

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TABLE XXII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE TO FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1933	1,368	152	1,520	90
	1932	1,483	136	1,619	92
	1931	1,435	163	1,598	90
	1930	1,457	137	1,594	91
	1929	1,424	201	1,625	88
	1928	1,330	205	1,535	87
	1927	1,308	188	1,496	87
	1926	1,375	191	1,566	88
	1925	1,401	154	1,555	90
	1924	1,384	168	1,552	89
	1923	1,330	196	1,526	87
	1922	1,181	173	1,354	87
Abroad	1933	621	24	645	96
	1932	583	28	611	95
	1931	582	29	611	95
	1930	561	25	586	96
	1929	586	39	625	94
	1928	517	48	565	92
	1927	519	56	575	90
	1926	593	57	650	91
	1925	665	52	717	93
	1924	672	60	732	92
	1923	616	85	701	88
	1922	638	104	742	86
Total	1933	1,989	176	2,165	92
	1932	2,066	164	2,230	93
	1931	2,017	192	2,209	91
	1930	2,018	162	2,180	93
	1929	2,010	240	2,250	89
	1928	1,847	253	2,100	88
	1927	1,827	244	2,071	88
	1926	1,968	248	2,216	89
	1925	2,066	206	2,272	91
	1924	2,056	228	2,284	90
	1923	1,946	281	2,227	87
	1922	1,819	277	2,096	87

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Table XXIII.—Results of Further Tests of Officers of the General Duties Branch, Cadets and Airman Pilots, 1933.

Nature of test.	Officers.						Cadets, 110		Airman pilots, 457.		Total officers, cadets and airman pilots, 2,732.	
	Fit for flying duties, 1,989.		Unfit for flying duties, 176.		Total, 2,165.							
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	888	45	74	42	962	44	43	39	143	31	1,148	42
,, present	1,101	55	102	58	1,203	56	67	61	314	69	1,584	58
Self-balancing, steady	1,896	95	158	90	2,054	95	105	95	448	98	2,607	95
,, ,, unsteady	93	5	18	10	111	5	5	5	9	2	125	5
Knee jerks—normal	1,762	89	148	84	1,910	88	104	95	405	89	2,419	89
,, ,, abnormal	227	11	28	16	255	12	6	5	52	11	313	11
Vision, 6/6 both eyes	1,930	97	147	84	2,077	96	104	95	455	(a)	2,636	97
,, 6/6 and 6/9; 6/9 and 6/9	42	2	16	9	58	3	5	4	2		65	2
,, over 6/9 in either eye	17	1	13	7	30	1	1	1	—	—	31	1
Nasopharynx—normal	1,935	97	168	95	2,103	97	108	98	446	98	2,657	97
,, abnormal	54	3	8	5	62	3	2	2	11	2	75	3
Teeth—no treatment required	1,803	91	157	89	1,960	91	103	94	403	88	2,466	90
,, treatment required	186	9	19	11	205	9	7	6	54	12	266	10
Pyorrhœa—absent	1,972	99	174	99	2,146	99	110	100	456	(b)	2,712	99
,, present	17	1	2	1	19	1	—	—	1		20	1

(a) 6/6 and 6/9; 6/9 and 6/9 in less than 0·5% of numbers examined.
(b) Present in less than 0·5% of numbers examined.

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TABLE XXIV.—AVERAGE RESULTS OF TESTS OF 1,989 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, 105 CADETS AND 449 AIRMAN PILOTS FIT FOR FLYING DUTIES. 1933.

——	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.				Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing (1st 5 secs.)*	Standing. (lowest steady rate)†	After-exercise.			
OFFICERS.	Years.		Yrs.	Kgs.	Secs.	Mm. Hg.	Secs.					Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	487	22·8	70·2	81·9	158·2	66·5	72·0	88·0	77·1	100·5	25·0	124·7	47·8
	25–30 ..	442	27·6	71·2	82·4	163·7	66·5	71·9	87·8	77·4	100·1	24·5	124·9	46·9
	31 and over	439	35·5	72·3	79·8	170·8	64·8	71·4	86·5	76·6	98·9	23·8	125·0	46·1
	All ages ..	1,368	28·4	71·2	81·4	164·0	65·9	71·8	87·5	77·0	99·8	24·4	124·9	47·0
Abroad	Under 25 ..	245	22·7	69·2	87·5	149·4	68·2	70·8	87·5	77·7	99·8	23·2	122·4	46·6
	25–30 ..	199	27·4	70·8	90·3	162·6	69·3	70·3	85·5	76·5	97·7	23·4	122·1	46·8
	31 and over	177	35·5	72·3	80·9	172·0	66·3	71·2	87·3	77·9	97·9	25·6	123·0	44·6
	All ages ..	621	27·9	70·6	86·5	160·1	68·0	70·8	86·8	77·4	98·6	24·0	122·5	46·1
Total force ..	Under 25 ..	732	22·7	69·9	83·8	155·2	67·0	71·6	87·8	77·3	100·3	24·4	123·9	47·4
	25–30 ..	641	27·5	71·1	84·8	163·3	67·4	71·4	87·1	77·1	99·3	24·1	124·0	46·9
	31 and over	616	35·5	72·3	80·1	171·1	65·2	71·3	86·7	76·9	98·6	24·4	124·4	45·6
	All ages ..	1,989	28·2	71·0	83·0	162·8	66·6	71·5	87·3	77·1	99·5	24·3	124·1	46·7

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CADETS	Under 25 ..	105	19·9	69·1	83·1	137·9	68·2	68·6	86·7	74·4	98·6	20·2	123·4	45·4
AIRMAN PILOTS.														
At home	Under 25 ..	94	23·8	68·5	84·7	156·6	63·9	72·4	88·3	76·6	101·3	24·4	128·1	49·9
	25–30 ..	175	26·8	67·4	84·7	159·3	65·2	73·1	89·5	78·0	101·9	26·2	128·5	49·2
	31 and over	16	33·7	68·4	70·8	156·4	60·4	73·4	88·1	78·0	98·6	28·4	127·1	48·2
	All ages ..	285	26·2	67·8	83·9	158·2	64·5	72·9	89·0	77·6	101·5	25·7	128·3	49·4
Abroad	Under 25 ..	85	23·9	66·5	91·8	148·7	71·3	71·3	90·4	79·3	102·5	20·6	127·1	47·3
	25–30 ..	77	26·1	65·5	86·5	155·6	68·5	70·3	87·3	76·0	99·0	22·2	122·5	46·0
	31 and over	2	35·0	71·8	102·0	215·0	73·5	73·0	84·0	78·0	102·0	25·0	137·0	48·5
	All ages ..	164	25·1	66·1	89·4	152·8	70·0	70·8	88·8	77·7	100·8	21·4	125·1	46·7
Total force ..	Under 25 ..	179	23·8	67·6	88·1	152·8	67·4	71·9	89·3	77·9	101·8	22·6	127·6	48·6
	25–30 ..	252	26·6	66·8	85·2	158·2	66·2	72·2	88·8	77·4	101·0	25·0	126·7	48·3
	31 and over	18	33·8	68·8	74·3	162·9	61·9	73·4	87·7	78·0	99·0	28·1	128·2	48·3
	All ages ..	449	25·8	67·2	85·9	156·2	66·5	72·1	88·9	77·6	101·3	24·2	127·1	48·4

* Not recorded in previous reports

† Comparable with "pulse, rate, standing" of previous reports.

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TABLE XXV.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 176 OFFICERS OF THE GENERAL DUTIES BRANCH. 1933.

Defect.	At home.	Abroad.	Total.
Vision	31	4	35
Ears or teeth	4	1	5
Medical	49	6	55
Surgical	50	9	59
D.P.E.	14	3	17
D.P.E. and vision	1	—	1
D.P.E. and surgical	2	1	3
D.P.E. and ears or teeth ..	1	—	1
Total ..	152	24	176

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TABLE XXVI.—AIRMAN RECRUITS—CAUSES OF REJECTION. 1933.

Total examinations, 1,773. Cause of rejection.	Numbers rejected. By civilian medical practitioners.	At London Recruiting Depôt.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	124	106	11	241	135	292
Physique, poor	59	39	2	100	56	121
Feet, deformities of	77	52	2	131	73	158
Heart, diseases of, including D.A.H.	59	29	3	91	51	110
Ears, diseases of	10	19	—	29	16	35
Lungs, diseases of	5	8	—	13	7	16
Vision, defects of	21	36	—	57	32	69
Speech, defects of	2	4	—	6	3	7
Nervous system, diseases of	4	1	—	5	3	6
Cutaneous system, diseases of ..	9	10	—	19	11	23
Albuminuria	—	6	1	7	4	8
Eyes and eyelids, diseases of ..	—	2	—	2	1	3
Hernia and bubonocele	3	5	—	8	4	10
Joints, diseases of	1	2	—	3	1	4
Veins, diseases of (varix)	6	22	—	28	16	34
Varicocele	13	11	2	26	13	31
Chest and spine, malformations of ..	2	5	—	7	4	8
Urinary organs, diseases of	—	—	—	—	—	—
Bed-wetting, history of	—	5	—	5	3	6
Ulcers, wounds, cicatrices	1	1	—	2	1	3
Other causes	16	29	1	46	26	56
Total	412	392	22	826	460	1,000

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TABLE XXVII.—DENTAL TREATMENT BY R.A.F. OFFICERS. 1933.

Treatment.	United Kingdom. (Average strength, 21,874.)	Mediterranean Littoral. (Average strength, 3,228.)	Iraq. (Average strength, 2,017.)	Total. (Average strength, 27,119.)
Fillings	27,452	3,249	2,922	33,623
Scalings	6,469	648	298	7,415
Extractions	8,319	1,106	976	10,401
Root fillings	106	12	11	129
Number of dentures supplied	498	110	60	668
Number of personnel fitted with dentures ..	368	69	43	480
Repairs to dentures ..	116	19	29	164
Remodels..	231	20	32	283

Note.—Dental treatment for R.A.F. personnel in India, Palestine and Khartoum is carried out by the Army.

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TABLE XXVIII. SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1933.

Nature of Examinations.	United Kingdom.			Abroad.				Total.
	R.A.F. Patho-logical.	Cranwell.	Halton.	Hinaidi and Basrah.	Aden.	Palestine.	Egypt.	
ANALYSES :—								
Faeces	50	16	86	4	2	2	—	160
Gastric	33	19	12	27	—	21	6	118
Urine	1,149	2,307	5,493	1,393	540	859	1,600	13,341
Food	24	4	—	—	37	15	—	80
Sewage	77	—	—	—	—	—	—	77
Water	241	9	—	1	22	168	109	550
BLOOD :—								
Agglutinations ..	200	4	7	69	22	22	22	346
Coagulation time	4	45	111	9	—	2	—	171
Counts	444	135	311	279	32	80	112	1,393
Cultures.. ..	201	12	5	52	15	7	2	294
Malaria parasites	396	39	33	414	115	217	505	1,719
Sugar tests ..	64	3	5	1	—	—	—	73
Ura tests.. ..	203	18	9	18	—	2	—	250
van den Bergh ..	99	3	1	4	4	11	—	122
Wassermann ..	557	174	86	398	57	220	29	1,521
CEREBRO-SPINAL FLUID :—								
Bio-chemical ..	31	2	8	5	—	—	—	46
Cell counts ..	30	2	7	5	—	4	—	48
Complement de-viation ..	31	2	3	5	—	2	—	43
Cultures.. ..	29	1	5	5	—	2	—	42
Meningococcus	22	1	3	1	—	—	—	27
Tubercle bacillus	11	2	3	—	—	4	—	20
DISCHARGE FOR :—								
Bacillus Ducrey	2	2	8	13	—	25	21	71
Gonococcus ..	37	472	542	580	313	311	112	2,367
Spironema ..	8	18	8	20	5	25	18	102
FAECES :—								
Bacteria ..	569	138	265	1,928	392	622	501	4,415
Protozoa ..	644	106	197	1,853	288	607	497	4,192
Helminths ..	263	14	77	274	266	108	537	1,539
PATHOLOGICAL SPE-CIMENS ..	63	6	7	3	3	14	—	96
PERI-DENTAL SMEARS	21	8	1	16	—	—	2	48
PUS FOR :—								
Pyogenic organisms	226	57	58	38	8	40	114	541
Leishmania ..	23	2	—	9	—	2	4	40
RENAL EFFICIENCY TESTS.. ..	183	18	31	20	—	6	—	258
SEPTIC FLUIDS ..	128	—	15	2	—	—	—	145
SPUTA :—								
General	291	105	385	463	80	162	73	1,559
Tubercle bacillus	334	105	284	478	80	162	71	1,514
THROAT SWABS ..	10,898	376	275	512	23	177	572	12,833
VACCINES, AUTO-GENOUS ..	131	29	5	36	9	7	13	230
MISCELLANEOUS ..	272	658	26	18	15	12	86	1,087
ANIMAL EXPERIMENTS ..	5	—	—	4	—	—	—	9
TOTALS ..	17,994	4,912	8,372	8,957	2,328	3,918	5,006	51,487
	31,278 United Kingdom.			20,209 Abroad.				

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REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1934

The following Report on the Health of the Royal Air Force for the Year 1934 is issued for the information and guidance of all concerned.

By Command of the Air Council,

C. Ll. Bullock

AIR MINISTRY

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force for the year 1934.

The health of all personnel, both at home and abroad, has continued to maintain its high standard during the year, and the incidence of all disabilities shows a reduction of 54·4 per 1,000 of strength below that for 1933. For cases admitted to hospitals and sick quarters only, the incidence also shows a reduction from 452 in 1933 to 398 per 1,000 in 1934. This equals the figure for 1932 which was the lowest incidence recorded since the institution of these reports in 1920. This reduction is accounted for largely by a very appreciable fall in the incidence of influenza at home from 75 per 1,000 in 1933 to 13 per 1,000 in 1934.

In the Apprentice group there was a very marked increase from 112·3 per 1,000 in 1933 to 267·9 per 1,000 in 1934 of the incidence of upper air passage infections, but this was offset by the low incidence of these infections in the other trade groups.

In Iraq, during the year, there was a fall in the incidence of Phlebotomus (Sandfly) fever from 100 per 1,000 in 1933 to 74 per 1,000, while an epidemic was responsible for an increase in the number of cases of dysentery to 101 from 15 in 1933, representing incidences of 49·4 and 7·4 per 1,000 respectively.

Venereal disease is lower this year at 9·9 per 1,000 of strength compared with 11·5 per 1,000 in 1933.

The incidence of invalidings from the Service fell from 6·1 in 1933 to 5·1 per 1,000 in 1934, and compares with average incidences of 6·7 and 9·9 per 1,000 for the periods 1928–1933 and 1921–1927 respectively.

The incidence of deaths was 3·1 per 1,000 of strength, which compares with 3·7 in 1933 and 4·0 and 4·3 per 1,000 for the periods 1928–1933 and 1921–1927 respectively.

The incidences of venereal disease, invalidings from the Service and deaths are the lowest yet recorded in the Royal Air Force.

I have the honour to be, Sir,

Your obedient Servant,

A. W. IREDELL.

Director of Medical Services,
Royal Air Force.

August, 1935.

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Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.					No. sick daily.	
		Not more than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	Fresh cases of sickness. 48-hour cases included.	Fresh cases of sickness. 48-hour cases excluded.	Deaths.	Invalided out of service.	Invalided to United Kingdom.	48-hour cases included.	48-hour cases excluded.
United Kingdom (*a*)																		
1934	21,424	4,188	7,189	11,377	63	115	—	11	17	6·1	5·8	531	336	2·9	5·4	—	16·7	15·8
1928–33. Average.. ..	*22,776*	*4,286*	*8,636*	*12,922*	*84*	*178*	—	*13*	*19*	*7·3*	*7·0*	*567*	*379*	*3·7*	*7·8*	—	*20·0*	*19·2*
1921–27. Average.. ..	*22,161*	*3,875*	*8,267*	*17,142*	*72*	*255*(*c*)	—	*10*	*18*	*7·4*	*6·8*	*774*	*373*	*3·2*	*11·5*(*c*)	—	*20·3*	*18·6*
Fleet Air Arm.																		
1934..	926	49	260	309	5	3	7	15	18	5·1	5·0	334	281	5·4	3·2	19·8	14·0	13·7
1927–33. Average.. ..	*845*	*294*	*331*	*625*	*6*	*3*	*8*	*9*	*17*	*7·0*	*6·5*	*740*	*392*	*7·1*	*3·6*	*19·6*	*19·2*	*17·8*
Mediterranean Littoral.																		
1934 (*b*)	4,115	1,830	2,145	3,975	13	18	51	9	16	8·8	8·1	966	521	3·2	4·4	12·4	24·1	22·2
1928–33. Average(*b*) ..	*3,795*	*1,664*	*1,857*	*3,521*	*15*	*12*	*42*	*9*	*15*	*8·2*	*7·6*	*928*	*489*	*4·0*	*3·2*	*11·1*	*22·5*	*20·8*
1921–27. Average(*a*) ..	*3,590*	*2,227*	*2,084*	*4,311*	*20*	*20*	*64*	*10*	*19*	*11·9*	*11·0*	*1,201*	*681*	*5·6*	*5·6*	*17·8*	*32·6*	*30·1*
Iraq.																		
1934..	2,045	550	1,432	1,982	11	12	43	15	21	14·9	14·6	969	700	5·4	5·9	21·0	40·8	40·0
1928–33. Average.. ..	*2,177*	*739*	*1,438*	*2,177*	*12*	*9*	*57*	*13*	*20*	*13·6*	*13·0*	*1,000*	*661*	*5·5*	*4·1*	*26·2*	*37·0*	*35·6*
1921–27. Average.. ..	*2,960*	*2,697*	*2,708*	*5,405*	*24*	*17*	*82*	*10*	*18*	*18·0*	*16·8*	*1,826*	*915*	*8·1*	*5·7*	*27·7*	*49·3*	*46·0*
India.																		
1934..	2,110	380	1,037	1,417	1	4	15	11	15	7·7	7·4	672	491	0·5	1·9	7·1	21·1	20·2
1928–33. Average.. ..	*2,069*	*874*	*1,257*	*2,131*	*11*	*6*	*19*	*10*	*15*	*9·8*	*9·2*	*1,030*	*608*	*5·3*	*2·9*	*9·2*	*26·8*	*25·2*
1921–27. Average.. ..	*1,887*	*2,150*	*1,390*	*3,540*	*17*	*11*	*48*	*7*	*16*	*13·3*	*11·7*	*1,876*	*737*	*9·0*	*5·8*	*25·4*	*36·4*	*32·1*
Abroad: All areas (*a*) (*d*)																		
1934	9,200	2,965	5,002	7,967	31	40	127	12	18	10·1	9·6	866	544	3·4	4·3	13·8	27·7	26·3
1928–33. Average.. ..	*8,694*	*3,575*	*4,894*	*8,469*	*41*	*31*	*131*	*10*	*17*	*10·1*	*9·5*	*974*	*563*	*4·7*	*3·6*	*15·1*	*27·7*	*26·0*
1921–27. Average.. ..	*8,521*	*7,129*	*6,218*	*13,347*	*61*	*49*	*194*	*9*	*18*	*14·3*	*13·1*	*1,566*	*730*	*7·2*	*5·8*	*22·8*	*39·2*	*35·9*
All areas.																		
1934..	30,624	7,153	12,191	19,344	94	155	127	12	17	7·3	6·9	632	398	3·1	5·1	13·8	20·0	18·9
1928–33. Average.. ..	*31,470*	*7,861*	*13,530*	*21,391*	*125*	*210*	*131*	*12*	*18*	*8·1*	*7·7*	*680*	*430*	*4·0*	*6·7*	*15·1*	*22·2*	*21·1*
1921–27. Average.. ..	*30,682*	*16,004*	*14,485*	*30,489*	*133*	*304*(*c*)	*194*	*9*	*18*	*9·3*	*8·6*	*994*	*472*	*4·3*	*9·9*(*c*)	*22·8*	*25·5*	*23·6*

(*a*) Includes Fleet Air Arm in this area. (*b*) Excludes Fleet Air Arm in this area. (*c*) Excludes 711 invalids through Discharge Centre Medical Board during 1921.
(*d*) Includes sickness at Far East stations (260 cases, 3 deaths, 3 finally invalided and 11 invalided to United Kingdom in 1934: average strength 576).

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1934

The method of recording statistics by commands in this report is similar to that adopted for all previous reports and is as follows :—

(i) All deaths, and all invalids discharged from the Service are shown under the command on whose strength the personnel concerned were borne when first admitted to sick quarters or hospital, irrespective of the command in which the death or invaliding took place.

(ii) All sickness in respect of cases invalided to home establishment is shown under the command in which the illness first developed.

General

1. The total sickness in the force at home and abroad is analysed in table 1, page viii, by geographical areas. There has been no change in the areas since last year's report, and the average personnel strengths of the localities included under the geographical area of Mediterranean Littoral were Malta, 424 ; Egypt, 2,101 ; Sudan, 205 ; Transjordan and Palestine, 637 ; Aden, 418 ; drafts en route to and from the United Kingdom, 295 ; and Special Duties, 35. Table 1 compares the figures for 1934 with the corresponding average figures for the two periods—1928–33 and 1921–27. Throughout the report these two periods are referred to as the two preceding periods respectively. Separate figures are shown for the Fleet Air Arm, which varies throughout the year as to locality, and the details of sickness at stations in the Far East Command, which includes Singapore and Kai Tak, China, are given in a footnote to this table.

2. The average strength of the total force during 1934 was 30,624 and the total number of cases of sickness, i.e., inclusive of admissions to hospitals and sick quarters and cases of not more than 48 hours duration was 19,344, giving a case incidence of 632 per 1,000 of strength compared with average incidences of 680 and 994 respectively for the two preceding periods.

3. In the total force the number of admissions to hospitals and sick quarters was 12,191, representing an incidence of 398 per 1,000 of strength compared with an incidence of 452 per 1,000 in 1933 and average incidences of 430 and 472 respectively for the two preceding periods.

4. Comparing the force at home and abroad, the total sickness incidence at home has decreased from 636 in 1933 to 531 per 1,000 of strength in 1934 and compares with the average incidences of 567 and 774 per 1,000 for the two preceding periods. Abroad the total sickness incidence figure was 866 per 1,000 for 1934, compared with the corresponding average incidences of 974 and 1,566 for the two preceding periods.

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At home, the number of admissions to hospitals and sick quarters was 7,189, representing an incidence of 336 per 1,000 of strength compared with figures of 412 in 1933 and 379 and 373 per 1,000 for the two preceding periods. Abroad, the comparable figures are 5,002 admissions to hospitals and sick quarters, an incidence of 544 per 1,000 of strength, which compares with 552 per 1,000 in 1933 and 563 and 730 per 1,000 for the two preceding periods.

5. (i) In the whole force, including cases of not more than 48 hours' duration, the number of sick daily at 20·0 per 1,000 of strength is 1·1 per 1,000 lower than the corresponding figure for 1933 and compares with average incidences of 22·2 and 25·5 per 1,000 for the two preceding periods. The comparable figures for home and abroad are as follows:—At home, 16·7 per 1,000 of strength were constantly sick in 1934 compared with 18·6 in 1933, and 20·0 and 20·3 per 1,000 for the two preceding periods. Abroad, the figures were 27·7, 27·1, 27·7 and 39·2 per 1,000 for 1934, 1933, and the two preceding periods.

(ii) Excluding cases of not more than 48 hours' duration, in the total force, the number of sick daily was reduced from 20·0 per 1,000 of strength in 1933 to 18·9 in 1934, and shows some reduction from the average incidences of 21·1 and 23·6 per 1,000 for the two preceding periods. At home, the number of sick daily in hospitals and sick quarters showed a reduction of 2·0 per 1,000 in 1934 compared with 1933, and the figure of 15·8 per 1,000 for 1934 compares favourably with the figures—19·2 and 18·6 per 1,000—for the two preceding periods. Abroad, the constantly sick figure of this class in 1934, 26·3, shows a slight increase over the figure for 1933, 25·8, and compares with averages of 26·0 and 35·9 per 1,000 for the two preceding periods.

6. In the total force, the average duration of each case was 12 days in 1934, compared with 11 days in 1933: the averages for the two preceding periods were 12 and 9 days, while the average number of days' sickness per head, 7·3, shows a reduction of 0·4 in 1934 from 7·7 days in 1933, and compares with averages of 8·1 and 9·3 days for the two preceding periods.

7. (i) Causes of sickness, excluding cases of not more than 48 hours' duration, in the force as a whole are analysed in table II, page 21, by certain diseases, groups of diseases, and injuries, to show the number of cases, deaths and invalids under each heading and to show further the percentage of each cause to the total, comparing 1934 with the two preceding periods.

(ii) In 1934, disease constituted 80·5 per cent. and injuries 19·5 per cent. of the total sickness compared with 82·1 and 17·9 per cent. in 1933 and average percentages of 82·0 and 18·0 per cent. and 85·3 and 14·7 per cent. respectively over the two preceding

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periods. It will thus be observed that disease and injury as causes of sickness have remained in fairly constant proportion. In the periods under review and in 1933, " other diseases due to infection " showed the highest percentage of total sickness. This fact was also noted in 1932. Excluding injuries, " diseases of the digestive system " was the second highest cause of sickness in 1934 as also in the two preceding periods. It has to be noted that there was a marked decrease in the number of cases due to influenza from 1,816 in 1933 to 390 in 1934, diseases of the respiratory system (excluding tuberculosis and pneumonia) from 400 to 290 cases and diseases of areolar tissue and skin from 850 to 666 cases.

The case incidence of malaria shows a fall from 456 cases in 1933 to 373 in 1934 and also phlebotomus (sandfly) fever from 360 cases in 1933 to 283 in 1934.

The case incidence of dysentery, however, shows a sharp rise from 61 in 1933 to 156 in 1934, this is mainly caused by an epidemic in Iraq in the autumn of the year.

The percentage of disease due to venereal disease in 1934 was 2·5, the same figure as for 1933.

8. The figures shown in table II, page 21, regarding deaths and invalids are commented upon respectively under these headings in this chapter.

9. (i) Table III, page 22, analyses, for 1934 and the two preceding periods, the incidence of sickness and the average duration of each case in days by groups of diseases and injury groups. This table further divides these incidences as they occur in the total force and the force at home and abroad.

The incidence of sickness due to disease fell from 371·4 in 1933 to 320·3 per 1,000 in 1934. This decrease is to a large extent accounted for by a fall in the incidence of diseases caused by infection, chiefly influenza, from 223·1 in 1933 to 179·4 per 1,000 in 1934.

This sickness incidence due to disease of 320·3 per 1,000 compares with average incidences for the two preceding periods of 352·4 and 402·6 per 1,000 respectively, and the incidence of 179·4 per 1,000 for diseases caused by infection compares with average incidences of 208·6 and 254·9 per 1,000 for the two preceding periods. The most notable variation in case incidence was that of diseases of areolar tissue and skin at home. In 1933 this was 28·1 while in 1934 it fell to 19·6. The figures for abroad remained practically unchanged at 26·1 and 26·7 in 1933 and 1934 respectively.

The incidence of injuries fell in 1934 to 77·7 compared with 81·0 per 1,000 for 1933 and average incidences of 77·5 and 69·5 per 1,000 for the two preceding periods.

(ii) During 1934 the average duration for cases of disease was 17 days compared with 15 in 1933 and 17 and 18 days for the two

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preceding periods. The injury group, with 19 days as an average duration, shows no variation from 1933. The two preceding periods are represented by the averages of 21 and 20 respectively.

Fleet Air Arm

10. The incidence rates of sickness, deaths and invalidings of the Fleet Air Arm are liable to fluctuate considerably as the total strength is so small—926. The incidence of all cases of sickness was 334 per 1,000 of strength compared with 583 for 1933 and 740 per 1,000 for the period 1927–33. Excluding 48-hour cases, the sickness incidence fell to 281 per 1,000 in 1934 from 362 in 1933 and compares with an average incidence of 392 per 1,000 for the period 1927–33. There was a rise in the incidence of deaths from 3·1 per 1,000 in 1933 to 5·4 in 1934; the death rate for the period 1927–33 was 7·1 per 1,000. The final invaliding rate was 3·2 per 1,000 in 1934 as compared with 4·1 in 1933 and 3·6 per 1,000 for the period 1927–33. This incidence of 3·2 and the average incidence of 3·6 per 1,000 compare favourably with the final invaliding rate for the total force of 5·1 per 1,000 for 1934. The incidence of invalids from abroad in 1934 was practically the same, at 19·8 per 1,000, as in 1933, 19·7, and also closely corresponds to the average incidence of 19·6 per 1,000 for the period 1927–33. The invaliding rate from abroad for the total force was 13·8 in 1934 and 15·1 per 1,000 over the period 1927–33.

Including 48-hour cases, the number of sick daily was 14·0 per 1,000 in 1934, compared with 18·9 in 1933 and 19·2 for the period 1927–33; the average duration of each case in days was 15 in 1934 compared with 12 in 1933 and 9 for the period 1927–33; and the average number of days' sickness per head was 5·1 in 1934, compared with 6·9 in 1933 and 7·0 for the period 1927–33. If cases of not more than 48 hours are excluded, the constantly sick incidence was 13·7 per 1,000 in 1934 compared with 17·8 in 1933 and 17·8 for the period 1927–33; the average duration of each case in days was 18 in both 1934 and 1933 and 17 days for the period 1927–33; and the average number of days' sickness per head was 5·0 in 1934, 6·5 in 1933 and 6·5 days for the period 1927–33.

Invalidings

11. *General.*—Table I, page viii, analyses the final invalidings and invalidings to the United Kingdom by geographical areas and total force to show the numbers and incidences per 1,000 of strength for the year 1934 and average incidences for the periods 1928–33 and 1921–27. Table II, page 21 shows the final invalidings by disease and injury groups, stating the number of cases and the percentage of the total attributable to each group during 1934 and

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the average percentages for the two preceding periods. Table XII, page 32, analyses for 1934 only, the incidence of final invalids by disease and injury causes and further shows the incidence of invalidings to the United Kingdom from abroad. The invaliding incidences for the Fleet Air Arm are analysed in paragraph 10.

12. *Invalids from commands abroad to the United Kingdom.*—(i) There was a slight decrease in the invaliding rate from abroad —13·8 per 1,000 in 1934 compared with 14·8 in 1933, and this incidence compares favourably with the invaliding rates of 15·1 and 22·8 per 1,000 for the two preceding periods.

(ii) The groups of diseases accounting for the majority of the invalidings to the United Kingdom in 1934 were as shown below. The comparative invalidings for these groups of diseases during 1933 are also shown.

	1934.		1933.	
Diseases of the nervous system and brain—				
Epilepsy	3		—	
Psychoneurosis	7	19	15	25
Mental diseases	3		5	
Others	6		5	
Tuberculosis—				
Respiratory	13	16	15	18
Other forms	3		3	
Diseases of the digestive system	13		12	
Diseases of organs of locomotion	10		5	
Injuries	9		11	
Diseases of circulation	8		7	
Diseases of the ear and nose—				
Chronic suppurative otitis media	4	7	6	10
Others	3		4	
Diseases of the respiratory system (excluding tuberculosis and pneumonia)	6		10	

During 1934 these disease groups accounted for 88 invalidings out of a total of 127.

(iii) Of the 20 officers invalided to the United Kingdom, 16 were invalided on account of disease (including two in which the disease was the result of old injury), and the remaining four on account

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of recent injury, of which three were caused by flying accidents. Of the 107 airmen invalided, 102 were on account of disease (including 8 as the result of old injury), and the remaining 5 were due to recent injuries, of which 2 were caused by flying accidents.

(iv) The 127 invalidings to the United Kingdom were from the following areas :—

	Officers.	*Airmen.*	*Total.*
Iraq	5	38	43
Egypt	5	22	27
India	4	11	15
Aden	2	10	12
Palestine	—	6	6
Fleet Air Arm	3	4	7
Malta	—	6	6
Far East	1	10	11
Total	20	107	127

(v) Of the 20 officers invalided to the United Kingdom, 15 were returned to duty during the year, one died and the remaining 4 were still under treatment at the end of the year. None of these officers was finally invalided during the year. Of the 107 airmen, 65 were returned to duty, 22 were finally invalided from the service and 20 were remaining under treatment.

13. *Final invalids.*—(i) One hundred and fifty-five cases—14 officers and 141 airmen were invalided out of the service in 1934 representing an incidence of 5·1 per 1,000 compared with 188 giving an incidence of 6·1 per 1,000 in 1933 and average incidences of 6·7 and 9·9 per 1,000 for the two preceding periods respectively. In 1934 disease as distinct from injury was responsible for 96·1 per cent. of final invalids. This figure compares with 92·0 in 1933, 93·6 in 1932, 91·6 in 1931 and average percentages of 91·9 and 94·5 over the two preceding periods. It will thus be noted that disease and injury as a cause of final invaliding bear a fairly constant proportion each year, although the proportionate incidence of disease was rather higher than usual in 1934. In each period under review the greatest percentage of final invalidings was due to diseases of the nervous system and brain—35·5 per cent. in 1934, compared with average percentages of 28·2 and 24·7 in the two preceding periods, with tuberculosis occupying second place—19·4 per cent. in 1934 which compares with averages of 14·5 and 13·5 per cent. over the two preceding periods. Injuries were responsible for 3·9 per cent. of final invalidings in 1934 compared with percentages of 8·0 in 1933, 6·4 in 1932 and average percentages of 8·1 and 5·5 over the two preceding periods.

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(ii) The chief causes of final invalidings in 1934 as compared with those of 1933 and 1932 were :—

	1934.		1933.		1932.	
Diseases of nervous system and brain—						
Psychoneurosis	21		24		21	
Mental diseases	15	55	21	66	12	55
Epilepsy	12		8		8	
Others	7		13		14	
Tuberculosis—						
Respiratory	27	30	35	38	31	36
Other forms	3		3		5	
Diseases of heart—						
Valvular	3		4		5	
Disordered action	2	11	—	4	3	15
Endocardial	6		—		5	
Myocardial	—		—		2	
Diseases of eye	9		15		13	
Diseases of ear and nose—						
Chronic suppurative otitis media	7	8	4	5	13	15
Others	1		1		2	
Diseases of organs of locomotion—						
Diseases of the bone	2		7		3	
Diseases of the joints	2	7	3	11	6	14
Deformities of limbs	3		1		5	
Injuries—						
Fractures	1		8		11	
Wounds	1	6	5	15	3	14
Others	4		2		—	
Diseases of respiratory system (excluding pneumonia and respiratory tuberculosis)	6		5		8	
Diseases of urinary organs	6		3		9	
Diseases of digestive system	4		11		13	
Acute rheumatism	2		7		6	
Tumours	—		1		4	

As in previous years, pulmonary tuberculosis and psychoneurosis were the most frequent causes of invaliding from the service in 1934, although the figures for pulmonary tuberculosis show an appreciable decrease from those of 1933.

Other observations of note are the decreases for cases of mental disease, diseases of the digestive system and organs of locomotion, and for injuries.

(iii) All the fourteen officers were finally invalided on account of disease. Of the 141 airmen finally invalided, 135 were invalided of account of disease (including 3 the result of old injury as distinct

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from recent injury), and of the 6 airmen invalided from the service on account of recent injury, 3 were invalided as the result of motor cycle accidents. In each of these 3 cases the airman was riding the motor cycle. These last figures compare very favourably with those of 1933 when 15 airmen were invalided from the service on account of recent injury, 8 being due to accidents which occurred to airmen when they were riding motor cycles.

Deaths

14. Table I, page viii, analyses all deaths, by numbers and by incidences per 1,000 of strength, in geographical areas, for the year 1934 and the two preceding periods. Table II, page 21, analyses for the same year and periods all deaths by groups of disease and injury, showing for each group the percentage of the total deaths. Table XII, page 32, further analyses by numbers, for 1934 only, all deaths by disease and injury causes, showing those occurring in the force at home and abroad, and those for the total force. The figures in respect of deaths in the Fleet Air Arm have already been commented upon in para. 10.

15. (i) There were 94 deaths in the total force during 1934, an incidence of 3·1 per 1,000 of strength, compared with 115 deaths and an incidence of 3·7 per 1,000 in 1933, and average incidences of 4·0 and 4·3 per 1,000 for the two preceding periods.

(ii) Of the total of 94 deaths, 61·7 per cent. occurred as the result of injury, compared with 72·2 per cent. in 1933, and 38·3 per cent. from disease, compared with 27·8 per cent. in 1933.

(iii) The causes of the 36 deaths from disease were as follows :—

Appendicitis	4
Carcinoma	4
Pneumonia	4
Dysentery	3
Myocarditis	3
Malaria	2
Carbon monoxide poisoning	2
Chemical poisoning	1
Bulbar paralysis	1
Cerebral abscess	1
Encephalitis	1
Meningitis	1
Acute lymphatic leukaemia	1
Diabetes insipidus	1
Intestinal obstruction	1
Tetanus	1
Aortic aneurysm	1
Pyaemia	1
Exophthalmic goitre	1
Endocarditis	1
Pulmonary tuberculosis	1

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Pneumonia, as in previous years, was one of the chief individual causes of death from disease as distinct from injury.

16. (i) The 94 deaths occurred among the following personnel at home and abroad.

	Home.	*Abroad.*	*Total.*
Officers	18	9	27
Flight cadets..	5	—	5
Apprentice clerks	1	—	1
Other airmen..	39	22	61
Total	63	31	94

(ii) At home, 63 deaths occurred, representing an incidence of 2·9, compared with 79 deaths and an incidence of 3·6 per 1,000 in 1933 and average incidences of 3·7 and 3·2 for the two preceding periods.

(iii) Abroad, the incidence per 1,000 of strength was 3·4 in 1934, compared with an incidence of 4·0 in 1933 and average incidences of 4·7 and 7·2 per 1,000 for the two preceding periods. Considering the death incidence by geographical areas abroad the marked decrease of the incidence in India to 0·5 per 1,000 in 1934, from 7·6 has to be noted and compared with the incidence of 3·4 per 1,000 for the force abroad. The death incidence for the other geographical areas, comparing 1934 with 1933 shows slight increases for the Mediterranean Littoral and Iraq.

17. (i) Of the twenty-seven officers who died, ten died on account of disease and the remaining seventeen on account of injuries.

(ii) Of the ten officers who died as the result of disease, four, including one who had been invalided from abroad to the United Kingdom, died as the result of disease contracted abroad.

(iii) Of the seventeen officers who died as a result of injury, 12 died at home and 5 abroad. Eight deaths at home and four abroad were due to flying accidents on duty. The causes of the remaining 5 deaths due to injury among officers were two motor vehicle accidents at home, two civil aeroplane accidents at home, and one accidental gunshot wound abroad. None of these five deaths occurred on duty.

18. Three flight cadets died as the result of flying accidents on duty and two as the result of two motor vehicle accidents.

19. The apprentice clerk was stationed at Ruislip, and died as a result of drowning.

20. (i) Of the 61 deaths which occurred among airmen other than apprentices, twenty-six were the result of disease and 35 on account of injury. Injury was thus responsible for 57 per

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cent. of the deaths among all airmen. Of the twenty-six deaths from disease, 12 occurred at home and 14 abroad, while 27 of the 35 deaths resulting from injury occurred at home and the remaining 8 abroad.

(ii) Of the 35 deaths from injury, 9 (5 at home and 4 abroad), were due to flying accidents. All the airmen were on duty at the time of the accidents. Of the remaining 26 deaths due to injury among airmen, 8, all in the United Kingdom occurring off duty, were the result of motor cycle accidents, 6 (one on duty) were due to involvement in motor car accidents, 4 by drowning, two were cases of suicide, two as the result of being struck by revolving airscrews, one as the result of a fall, one as the result of injuries received from a train, one as the result of a pedal cycle accident and one in Khartoum as the result of scorpion stings. Deaths resulting from motor cycle accidents decreased from 11 in 1933 to 8 in 1934.

Pulmonary Tuberculosis

21. (i) Table IV, page 23 analyses all fresh cases of pulmonary tuberculosis which arose during 1934 by age, trade group, length of service, and type of unit.

(ii) Twenty-nine fresh cases of pulmonary tuberculosis were recorded in 1934 compared with 35 in 1933, 39 in 1932, and 23 in 1931, representing incidences per 1,000 of strength of 0·9 in 1934, 1·1 in 1933, 1·2 in 1932 and 0·7 in 1931.

(iii) Of the 29 cases in 1934, 15 occurred at home, and 14 abroad, and the respective incidences per 1,000 were 0·7 at home and 1·5 abroad. There was one death at home, but none abroad.

(iv) The 15 fresh cases at home were two officers, one aircraft apprentice stationed at Halton and 12 other airmen, while the 14 cases occurring abroad were airmen.

22. In addition to the 29 fresh cases, there were 8 cases of pulmonary tuberculosis diagnosed previous to 1934 which came under treatment in that year. Of the 29 fresh cases, 20 were invalided from the service, one died and eight were remaining under treatment at the end of 1934. Of the 8 cases remaining under treatment from 1933, the diagnosis of one was changed and he returned to duty while the remaining 7 were invalided from the Service during 1934, making a total of 27 final invalids from this disease during the year. Of these 27 invalids, 12 were serving at home and 15 abroad at the date when the disease was first diagnosed.

23. (i) In only two of the 29 fresh cases was there a definite family history of pulmonary tuberculosis. Of the 15 cases which occurred at home, 6 had served abroad in tropical or semi-tropical countries and one showed a previous history of tropical disease. Of the 14 cases serving abroad, 5 had a history of tropical disease.

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(ii) The tubercle bacillus was found in the sputa of 22 out of the 29 fresh cases, while the remaining 7 cases were diagnosed by positive X-Ray and clinical findings.

Venereal Disease

24. (i) An analysis of the incidence of the various forms of venereal disease at home and abroad, and for the whole force during 1934 is given in table VI, page 25. This table also shows the incidences for total venereal disease for each year from 1921.

(ii) Compared with 1933 the incidence of all venereal diseases in 1934 fell to 9·9 from 11·5 per 1,000 of strength. This figure is the lowest incidence of venereal disease yet recorded in the Royal Air Force, a fall of 1·4 per 1,000 below the previous lowest incidence. There was a decrease in the incidence of all fresh types of venereal disease in 1934, and the figure for acute gonorrhoea was 7·4 per 1,000 in 1934 as compared with 8·0 per 1,000 in 1933. As noted in all previous Health Reports for the Royal Air Force, the incidences of all types of venereal disease occurring abroad were markedly higher than at home. In 1934, the average number of sick daily for all venereal disease was 22·8 at home and 30·7 abroad compared with 27·2 at home and 29·8 abroad for 1933, while the average duration of each case in days for the whole force in 1934 was 65 as compared with 59 in 1933. The average duration of each case for the total force has continued to increase slightly each year since 1927 when the figure was 50·1 days; there was a large increase in the average duration of each case abroad from 55 days in 1933 to 69 in 1934.

(iii) The following figures compare the number of days' sickness per head, due to venereal disease in certain geographical areas. The figures for 1933, 1932, 1931 and 1930 are given for comparison.

	Average No. of days' sickness per head.				
	1934	1933	1932	1931	1930
Home	0·4	0·5	0·5	0·7	0·8
India	0·4	0·6	0·4	0·8	0·6
Mediterranean Littoral ..	0·9	1·2	1·2	1·3	0·8
Iraq	1·8	1·1	1·3	1·7	2·3
Total Force	0·6	0·7	0·7	0·9	0·9

Age Groups

25. Table V, page 24, gives an analysis of sickness incidence, subdivided into disease and injury, in the total force, in the force at home and abroad, by age groups in the case of airmen, and by officers and cadets. The youngest group—apprentices—serves at

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home only and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of the numbers if divided into age groups.

26. (i) The incidence of all disabilities for all units shows that the airmen group is larger at 402 per 1,000 than the officers and cadets group at 369 per 1,000, as contrasted with the analogous incidences for the year 1933 when the airmen group was 58 per 1,000 lower. This difference is accounted for by the incidence of disease being lower at 291 per 1,000 for the officers and cadets group than in the airmen group at 324 per 1,000. There is no difference in the incidence of injury comparing the officers and cadets group with the airmen group, both standing at 78 per 1,000.

(ii) In analysing the incidence of all disabilities among the age groups of airmen, it is observed that the highest incidence is recorded among the younger age groups, and the four lowest incidences in the four oldest age groups. The incidences for units at home show that the lowest incidence is in the age groups 30–34 and 28–29, while the incidence of all disabilities abroad is lowest in the two oldest age groups. For disease, the lowest incidence at home is in the 28–29 and 30–34 age groups, while disease abroad and injury both at home and abroad are lowest in incidence for the two oldest age groups.

(iii) In comparison with 1933, the disease incidence for each group at home shows an appreciable decrease for 1934 except for airmen under 18, where there is a marked increase. There is a decrease also in the officers and cadets group. Abroad, there is little change in the various age groups for airmen, except in the 28–29 age group where there is a decrease of 85 per 1,000 comparing 1934 with 1933 and in the age group 20–21, which shows an increase of 107 per 1,000. The officer group abroad shows a decrease of 93 per 1,000. The incidence of disease in all age groups of airmen and for the officers and cadets group is lower at home than abroad, and this fact also applies to most of the airmen age groups for the incidence of injury. As noted in 1933, the 1934 injury incidence for all units in the airmen age groups falls as the airmen become older. Comparing 1934 with 1933, the injury incidence at home and abroad in each group shows little variation except for the age groups under 18 at home, and 20–21 abroad. Both these groups show higher incidence of injury in 1934.

Types of Unit

27. Table VIII, page 28 analyses the incidence of sickness, sub-divided into disease and injury in the total force and in the force at home and abroad by different types of unit.

28. (i) As in 1933, it is noted that the total sickness incidence in flying units is lowest, the disease incidence being markedly so—257·4 compared with 384·1 and 375·8 per 1,000 for depôts and

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miscellaneous units respectively, while the injury incidence is highest in depôts, with little divergence in incidence between flying and miscellaneous units. The incidence of deaths, as expected, is highest in flying units, 3·7 per 1,000 and is chiefly due to injury causes with an incidence of 2·9, compared with 0·8 per 1,000 for disease. This compares very favourably with the figures for 1933 which were 5·1, 4·5 and 0·6 per 1,000 respectively. The incidence of invalidings from the service is highest in miscellaneous units at 7·4, compared with 5·1 per 1,000 for all units. The average duration of each case in days shows no variation comparing the different types of units, but consequent upon the lowest incidence of total sickness being recorded in flying units, the average number of sick daily is lowest in that group of units.

(ii) Comparing the incidences in the types of units at home, the total sickness incidence is lowest in flying units at 243·0 per 1,000, compared with 407·4 and 464·4 per 1,000 for miscellaneous units and depôts respectively. The incidence of disease shows the same order with 171·9 for flying units, 336·9 for miscellaneous units and 370·6 per 1,000 for depôts. Depôts also record the highest injury incidence at 93·8, compared with 71·1 for flying units and 70·5 per 1,000 for miscellaneous units. This incidence compares with an incidence of 90·3 in 1933, and incidences of 80·0 in 1932 and 71·9 per 1,000 in 1931, showing the continued increase of the incidence of injury at depôts. The death incidence at home was 3·5 in flying units compared with 2·8 and 1·8 per 1,000 in miscellaneous units and depôts respectively. The incidence of 3·5 in flying units is mainly due to the death incidence on account of injuries at 3·1 per 1,000. This death incidence due to injuries of 3·1 for flying units compares with 0·8 at depôts and 1·3 per 1,000 at miscellaneous units. These figures compare favourably with incidences of 4·2, 0·4 and 1·2 respectively for 1933.

(iii) Abroad, the total sickness incidence was lowest at depôts with 477·2 per 1,000 and highest at flying units with 595·0 per 1,000. As in 1933, flying units recorded both the highest disease and injury incidences of the different types of unit and also the highest death incidence, chiefly consisting of deaths from injury, and the highest incidence of invalidings from the service. The average duration of each case in days shows little variation comparing the different types of units.

(iv) Comparing the force abroad and at home the disease incidence abroad in flying units is almost treble that at home while there is only a small difference between the injury incidences. In depôts, total sickness incidence was only 12·8 per 1,000 greater abroad than at home, although the disease incidence was 35·3 per 1,000 higher abroad than at home, an increase of 10·2 per 1,000 as compared with 1933. In miscellaneous units, the total sickness incidence was 547·4 abroad, compared with 407·4 per 1,000 at home and disease

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incidence was 467·8 and 336·9 per 1,000 abroad and at home respectively. The injury incidence was 79·6 abroad, compared with 70·5 per 1,000 at home.

Trade Groups

29. Table IX, page 29, analyses by trade groups the incidences of sickness, divided into injury and disease, and the latter further sub-divided into the groups of diseases which are usually the cause of the bulk of medical non-effectiveness. In 1934 there was no change from 1933 and 1932 in the trades forming the various trade groups, so that the incidences for these two years are strictly comparable.

30. (i) In 1934, apprentices show the highest all disabilities incidence with 747·7 per 1,000, followed by drivers and open-air workers, and aircraft hands groups with 514·5 and 421·3 per 1,000 respectively. In 1933 also the highest disability incidence was recorded in the apprentice group. In 1934 this high incidence among apprentices is mainly the result of the high incidences for upper air passage infections, 267·9 per 1,000, digestive diseases, 67·1 per 1,000, all other diseases, 264·5 per 1,000 and all injuries, 115·2 per 1,000. The incidence for influenza of 20·3 per 1,000 compares with 12·7 per 1,000 for the total force. As compared with 1933 the total disability incidence for apprentices has increased by 152·7 per 1,000 and this is caused chiefly by a rise of 155·6 per 1,000 in the incidence of infections of the upper air passages. In 1934 the incidence of venereal disease for apprentices was nil. The lowest all disabilities incidence is recorded by workshop workers with 343·1 followed closely by fitters with 343·8 per 1,000.

(ii) The high incidence for all injuries in the apprentice group continues to increase and for 1934 stands at 115·2 per 1,000 as compared with an incidence of 100·3 in 1933, 67·4 in 1932 and 43·8 in 1931. The next highest incidences for all injuries are in the drivers and open-air workers group, 95·6, followed by fitters and metal workers groups with 82·9 and 82·3 per 1,000 respectively. "Other skilled workers" group records the lowest of all injuries incidence with 56·1 per 1,000, the clerks and office workers group occupying the second lowest place with an incidence of 64·8 per 1,000.

(iii) Apprentices record the highest all diseases incidence with 632·5 per 1,000, compared with a lowest incidence of 260·9 per 1,000 for the fitters group. In the disease groups as compared with 1933 the incidence of influenza is less by 46·1 per 1,000 for the total force. The highest incidence of influenza is noted in the officers-airman pilots group at 23·1 per 1,000, and as compared with the figure 87·4 for 1933 shows a marked reduction. The lowest incidences for

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influenza are among the fitters, other skilled workers, workshop workers and metal workers groups. The highest incidence, 267·9 per 1,000, of upper air passage infections for the apprentices group is a large increase over those for 1933 and 1932, and compares with an incidence of 75·9 per 1,000 for the total force. As in former years, the low venereal disease incidence of the officers-airman pilots group is noticeable. The highest incidence for venereal disease is shown in the wireless operators, riggers and armourers group, followed by the drivers and open-air workers group, which usually heads the list. For respiratory diseases the other skilled workers and apprentices groups show the highest incidences with 16·5 and 12·7 per 1,000 respectively, and fitters the lowest with 6·6 per 1,000, which compare with 9·5 per 1,000 for the total force. In the digestive diseases group, workshop workers and fitters show the lowest incidences at 27·5 and 28·2 per 1,000 respectively, as compared with 31·3 and 29·8 per 1,000 respectively for 1933. The highest incidence, as in 1933, is in the apprentice group with 67·1 per 1,000.

Injuries

31. Table X, page 30, analyses injuries under the heading "nature of injury" and also injuries and deaths from injury, with regard to whether they occurred on or off duty or from participation in games organized by the service. Medical non-effectiveness due to the following:—heat exhaustion—10 cases; the physical effects of heat, cold or electricity, i.e., sunburn—13 cases; frost bite—1 case; injury from lightning—1 case; and disability due to ill-fitting boots—11 cases, are not considered cases of injury for the purpose of this analysis.

32. (i) The number of cases of injuries of all types excluding those mentioned above, occurring during 1934 was 2,343, representing an incidence of 77 per 1,000 of strength, as compared with 80 per 1,000 in both 1933 and 1932, and 73 per 1,000 in both 1931 and 1930. There is little variation from year to year in the incidence of injury. Four hundred and thirty cases of injury occurred definitely on duty, and in addition there were 937 cases of injury due to participation in games and athletics organized by the service. Thus 58 per cent. of all accidents were due to these two classes of injury during 1934, compared with the same percentage in 1933, 56 in 1932, 60 in 1931, and 56 per cent. in 1930.

(ii) There were 58 deaths resulting from injury compared with 80 deaths in 1933. Forty-seven per cent. of the deaths occurred on duty, compared with 61 per cent. in 1933.

(iii) Six invalidings from the service during 1934 were the result of injury, compared with 15 in 1933; at the time of the receipt of the injury one was taking part in a game organized by the service, and 5 were off duty.

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(iv) In 1934, as in the past five years, the lower extremity is the site of the highest percentage of injuries, 52 per cent., compared with 51 per cent. in 1933.

33. *Injuries sustained in flying accidents.*—(i) Table XI, page 31, analyses flying casualties on duty for the years 1931 to 1934 inclusive. It shows the numbers killed and injured, divided into officers, cadets and airmen, and also the deaths as a percentage of the total flying casualties and the average duration of each case in days.

(ii) As a result of accidents while flying on duty in 1934 there were 74 casualties, compared with 111 in 1933; or a percentage of 3·2 of all injuries analysed as compared with 4·5, 4·9 and 6·2 in 1933, 1932 and 1931 respectively. During 1934, the hours flown per flying accident resulting in death or injury were more than in any previous year. There were 4 flying casualties off duty during 1934.

(iii) The number of deaths due to accidents while flying on duty in 1934 was 24 as compared with 48 in 1933. Thus 32 per cent. of the total flying casualties in 1934 resulted in death, compared with 43, 39 and 46 per cent. in 1933, 1932 and 1931 respectively. In 1934, 41 per cent. of the total deaths as a result of injury were due to flying accidents, compared with 60 per cent. in both 1933 and 1932, and 73 per cent. in 1931. During 1934, of the 24 deaths, 12 were officers, 3 were flight cadets and 9 were airmen. All the officer casualties were of the general duties branch. Of the 9 airmen killed, four were either qualified airman-pilots or airmen under training as airman-pilots.

(iv) There were no invalidings from the service as the result of injury received in flying accidents.

(v) Of the total of 50 injured as a result of flying accidents, 24 were officers of the general duties branch, two were flight cadets and 24 were airmen, of whom four were either airman-pilots or airman-pilots under training.

(vi) In 1934, excluding cases which resulted in death, the average duration of each case was 54 days in hospital or sick quarters compared with 45, 39 and 46 days in 1933, 1932 and 1931 respectively.

34. *Injuries caused by airscrews.*—During 1934, there were 21 cases, all on duty, of injuries caused by airscrews, compared with 13, 15 and 24 cases in 1933, 1932 and 1931 respectively. There were 2 deaths and no invalids. Fifteen of the 21 cases received the injuries whilst handling the airscrew, while the remaining 6, including the two deaths, were struck in the course of their duties in or near aircraft, the airscrews of which were revolving.

35. *Injuries sustained while starting motor engines.*—During 1934, 28 cases of injury from this cause occurred compared with

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23 in 1933, 27 in 1932 and 24 in 1931, and 20 of the cases occurred on duty. There were no deaths or invalidings. These cases exclude those referred to in the previous paragraph.

36. *Injuries the result of motor accidents.*—(i) There were 349 cases of injury resulting from motor accidents during 1934, compared with 448 in 1933, 468 in 1932, and 410 in 1931, while the percentage of injuries due to this cause of the total injuries was 15 as compared with 18 in 1933. Of the 349 cases, twenty-two only occurred on duty. There were 18 deaths, of which only one occurred on duty, and four were invalided from the service. None of the invalids was on duty when the accident occurred. The numbers of deaths and invalidings from the service as a result of injuries received in motor accidents for the years 1931 to 1934 inclusive were as follows :—

	1934.	1933.	1932.	1931.
Deaths ..	18	20	21	20
Invalids ..	4	9	12	12

(ii) Injuries resulting from motor accidents are further analysed by the four following groups :—

(*a*) *Motor cycles—occupants.*—During 1934, 233 cases, or approximately 67 per cent. of all motor accidents resulting in injury and 10 per cent. of all injuries, occurred to occupants of motor cycles. These percentages compare with 74 and 13 respectively in 1933. Of the 233 cases 7 were on duty. Nine deaths, all occurring off duty, resulted, and there were 3 invalidings, also the results of accidents off duty. In 1933, the corresponding numbers were 12 deaths and 8 invalidings. There was, therefore, a small decrease in the wastage of personnel on account of this cause in 1934.

(*b*) *Motor cars—occupants.*—Eighty-two cases of injury due to this cause, 3 being on duty, occurred during 1934 compared with 68 in 1933. There were 5 deaths, all off duty, and no invalidings.

(*c*) *Lorries or tenders—occupants.*—Out of a total of 14 cases injured owing to this cause in 1934, 11 were on duty. These figures are the same as for 1933. There were no invalids or deaths.

(*d*) *Motor vehicles, all types—non-occupants.*—There were 20 persons who were non-occupants of the vehicles injured by motor vehicles in 1934, compared with 33 cases in 1933. One of the cases was on duty. Four deaths and one invaliding, of which one death was on duty, resulted. The types of vehicles involved in the accidents were :—civilian 14, resulting in two deaths and the invaliding, R.A.F. transport one, and unknown transport 5, resulting in two deaths.

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37. *Injuries sustained in athletics, games and physical recreation.*—During 1934, 1,148 cases of injuries were sustained in athletics, games and physical recreation, an incidence of 37 per 1,000 of strength, compared with 1,214, 1,189 and 1,089 cases and incidences of 39, 37 and 34 per 1,000 in 1933, 1932 and 1931 respectively. There was one death in an organized game, two deaths off duty, and one invaliding as a result of injuries received in an organized game. Of the 1,148 cases, 937 or 40 per cent. of the total injuries and 82 per cent. of injuries received in games, occurred in organized games. Football was responsible for the major number of the cases, i.e., 787 or 70 per cent., the same percentage as in 1933. The most common injuries received playing this game were synovitis of knee, 157 cases, and sprained ankle, 143 cases.

38. *Wounds in action.*—As in 1933, there were no cases of injury in 1934.

39. *Accidental gunshot wounds.*—In 1934 five cases occurred, compared with 2 cases in 1933. Two cases were on duty, 2 off duty of whom one died, and one on leave. There was no case invalided.

40. *Injuries the result of voluntary parachute descents.*—As in 1933 there were two cases of injury due to this cause. There were no deaths or invalidings. Injuries received in emergency parachute descents are classified as flying accidents and are included in the figures in para. 33.

41. *Injuries caused by animals, etc.*—During 1934, 4 cases of injury were reported, including 1 death from scorpion stings, compared with none in 1933.

42. *Injuries sustained in workshops.*—Thirty-three cases of injury were reported in 1934, compared with 30 in 1933. All were on duty and there were no deaths or invalidings.

43. *Other causes of injury.*—675 cases of injury which it was not possible to classify under any of the preceding paragraphs occurred during 1934, compared with 626 in 1933. Of the 675 cases, 256 occurred on duty, 377 off duty and in 42 cases this information was incomplete in detail. Of the cases on duty, none resulted in death or invaliding, while 7 deaths occurred off duty. There were 3 cases of suicide or attempted suicide, and 6 cases of injury off duty due to " fights."

Nosological Tables

44. Table XII, page 32, is the chief nosological table of the report and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad and as a whole. Certain diseases and injuries marked with an asterisk in this table are responsible for the majority of the total sickness and are analysed in greater detail in table VII, page 26, by geographical areas and

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for the total force. Table VII also serves to indicate the relative incidence of tropical diseases in areas abroad. The figures for the Fleet Air Arm, which were shown as a separate entity in table I, page viii, are included in the home and abroad figures as appropriate in tables VII and XII. The heading "no appreciable disease" includes all cases, except mental and epileptic, which were admitted to hospital or sick quarters for observation, and in which no confirmation of disease or injury was made.

45. (i) The principal causes of medical non-effectiveness with the average number of sick daily due to each cause are shown below, and the figures for 1934, 1933, 1932, and 1931 are inserted for comparison :—

	Average number of sick daily.			
	1934.	1933.	1932.	1931.
Injuries	124·0	133·0	144·6	135·3
Gonorrhoea	45·5	47·6	51·3	62·2
Tonsillitis, acute	25·2	23·7	22·2	22·4
Upper air passage infections (excluding tonsillitis) ..	24·4	21·6	21·0	28·9
Inflammation of areolar tissue (includes abscess, boils, carbuncle, cellulitis)	20·1	21·3	21·1	21·7
Appendicitis	16·7	18·2	21·1	23·3
Malaria	15·9	17·0	10·5	13·5
Dysentery	11·1	4·5	4·9	5·6
Diseases of joints	10·5	10·3	11·3	10·8
Tuberculosis (all forms) ..	9·9	9·1	8·5	5·5
Influenza	9·7	37·9	19·8	26·0
Enteritis acute, and gastro-enteritis	8·7	7·0	7·0	5·6
Venereal disease (excluding gonorrhoea)	8·0	9·4	8·6	14·5
Hypertrophy of tonsils ..	7·9	7·1	7·7	9·8
Urethritis (non-venereal) ..	7·2	9·3	9·1	10·3
Bronchitis	6·4	7·8	8·7	9·6
Phlebotomus (Sandfly) fever	5·7	8·3	9·0	9·2
Impetigo contagiosa ..	5·0	6·7	8·2	10·1

(ii) During 1934, injuries and gonorrhoea were the chief causes of disablement, although the number constantly sick on account of gonorrhoea has decreased compared with the three previous years. There has been a marked fall in the number constantly sick of account of influenza and a small increase for dysentery. The average number of sick daily otherwise varies little as compared with the figures for 1933.

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46. (i) The following table compares the medical non-effectiveness in the various geographical areas by showing the average number of days' sickness per head, comparing 1934 with 1933.

	Average Number of Days' Sickness per Head (including cases of not more than 48 hours' duration).	
	1934.	1933.
United Kingdom	6·1	6·8
Mediterranean Littoral	8·8	8·4
India	7·7	8·8
Iraq	14·9	13·6

As in 1933 Iraq appears to be the most unhealthy area and the United Kingdom the most healthy.

(ii) Venereal disease as a cause of medical non-effectiveness in the various geographical areas is commented upon in para. 24, page 11.

47. (i) The following table records the chief causes of medical non-effectiveness by showing the average number of sick daily in the force at home and abroad.

	Average number of sick daily (excluding cases of not more than 48 hours' duration).	
	Home.	*Abroad.*
Injuries	90·6	33·4
Gonorrhoea	21·3	24·2
Upper air passage infections (excluding tonsillitis) ..	17·4	7·2
Tonsillitis, acute	16·6	8·5
Appendicitis	9·0	7·7
Influenza	6·6	3·1
Malaria	1·9	14·0
Phlebotomus (Sandfly) fever ..	—	5·7
Venereal disease (excluding gonorrhoea)	1·5	6·5

(ii) At home, as can be seen in the table above, the two principal causes of medical non-effectiveness, shown by the average number of sick daily, were injuries with 90·6, and gonorrhoea with 21·3 sick per day. From second place in 1933 influenza takes the sixth place of importance in the table for 1934.

(iii) Abroad, the chief causes of medical non-effectiveness were, injuries with 33·4, gonorrhoea with 24·2 and malaria with 14·0 constantly sick daily. The enteric group diseases at 1·6, remain low, as in 1933.

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1934.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1934.	1928-33.	1921-27.	1934.	1928-33.	1921-27.	1934.	1928-33.	1921-27.
Dysentery	156	3	—	1·3	*0·6*	*1·3*	3·2	*0·1*	*0·3*	—	—	*0.1*
Enteric group ..	9	—	—	0·7	*0·2*	*0·2*	—	*1·6*	*2·4*	—	—	—
Influenza	390	—	—	3·2	*7·5*	*6·0*	—	*0·3*	*0·1*	—	—	—
Malaria	373	2	—	3·1	*3·7*	*7·4*	2·1	*0·5*	*1·2*	—	—	*0·2*
Pneumonia ..	43	4	—	0·3	*0·4*	*0·5*	4·2	*2·8*	*4·9*	—	*0·1*	—
Pyrexia of unknown origin	27	—	—	0·2	*0·3*	*0·6*	—	—	*0·1*	—	—	—
Phlebotomus (Sand-fly) fever ..	283	—	—	2·3	*3·2*	*6·8*	—	—	—	—	—	—
Tuberculosis ..	37	1	30	0·3	*0·3*	*0·3*	1·1	*2·7*	*3·9*	19·4	*14·5*	*13·5*
Venereal diseases ..	303	—	1	2·5	*3·4*	*5·0*	—	—	—	0·6	*0·3*	*0·9*
Pyæmia and septi-cæmia	3	1	—	0·0	*0·0*	*0·0*	1·1	*1·7*	*2·2*	—	—	—
Other diseases due to infection	3,871	2	2	31·6	*29·1*	*25·9*	2·1	*3·6*	*1·5*	1·3	*4·1*	*1·9*
Contacts and carriers	80	—	—	0·6	*0·7*	*0·3*	—	—	—	—	*0·2*	*0·1*
Nervous system and brain	220	3	55	1·8	*1·6*	*1·9*	3·2	*1·9*	*2·2*	35·5	*28·2*	*24·7*
Eye	139	—	9	1·1	*1·1*	*1·1*	—	—	—	5·8	*6·9*	*8·4*
Ear and nose ..	411	—	8	3·3	*2·4*	*1·8*	—	*0·4*	—	5·2	*4·8*	*11·7*
Circulatory system	123	6	14	1·0	*0·9*	*1·2*	6·4	*3·2*	*2·7*	9·0	*8·8*	*8·0*
Lymphatic system..	16	1	3	0·1	*0·1*	*0·1*	1·1	*0·4*	*0·1*	1·9	*1·4*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	290	—	6	2·4	*3·0*	*2·9*	—	*0·8*	*0·9*	3·9	*4·2*	*4·0*
Teeth and gums ..	83	—	—	0·7	*0·6*	*0·6*	—	—	—	—	*0·1*	*0·2*
Digestive system ..	1,133	5	4	9·2	*9·4*	*7·8*	5·3	*4·1*	*5·2*	2·6	*4·1*	*3·5*
Disorders of nutrition and metabolism	10	1	3	0·1	*0·1*	*0·0*	1·1	*0·1*	*0·2*	1·9	*1·2*	*0·6*
Generative system..	282	—	—	2·2	*2·0*	*1·7*	—	—	—	—	*0·3*	*0·1*
Organs of locomotion	366	—	7	3·0	*2·8*	*2·9*	—	—	—	4·5	*8·2*	*10·8*
Areolar tissue and skin	666	—	1	5·4	*5·9*	*6·3*	—	*0·1*	—	0·6	*1·0*	*1·1*
Urinary organs ..	170	—	6	1·4	*0·9*	*0·6*	—	*0·9*	*0·5*	3·9	*2·4*	*2·8*
Tumours and cysts	72	4	—	0·6	*0·4*	*0·6*	4·2	*2·0*	*1·3*	—	*1·0*	*0·4*
Poisons	71	3	—	0·6	*0·4*	*0·3*	3·2	*1·6*	*0·7*	—	—	*0·1*
Debility	30	—	—	0·2	*0·2*	*0·5*	—	—	—	—	—	*0·3*
Other diseases ..	155	—	—	1·3	*0·8*	*0·7*	—	*0·1*	—	—	*0·1*	*0·1*
Total: all diseases	9,812	36	149	80·5	*82·0*	*85·3*	38·3	*28·9*	*30·4*	96·1	*91·9*	*94·5*
Total: all injuries	2,379	58	6	19·5	*18·0*	*14·7*	61·7	*71·1*	*69·6*	3·9	*8·1*	*5·5*
Total: all disabilities	12,191	94	155	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS, 1934.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total force.			Home.			Abroad.			Total force.		
	1934.	Average 1928–33.	Average 1921–27.	1934.	Average 1928–33.	Average 1921–27.	1934.	Average 1928–33.	Average 1921–27.	1934.	Average 1928–33.	Average 1921–27.	1934.	Average 1928–33.	Average 1921–27.	1934.	Average 1928–33.	Average 1921–27.
Diseases caused by infection ..	136·9	*166·7*	*174·7*	278·5	*318·5*	*463·5*	179·4	*208·6*	*254·9*	13	*14*	*16*	16	*15*	*16*	15	*15*	*16*
Contacts and carriers	2·6	*3·7*	*1·8*	2·7	*1·2*	*0·8*	2·6	*3·0*	*1·5*	13	*17*	*12*	11	*16*	*17*	13	*17*	*13*
Effects of parasites	1·3	*1·1*	*0·6*	3·0	*2·5*	*2·5*	1·8	*1·5*	*1·1*	16	*21*	*11*	14	*23*	*24*	15	*22*	*19*
Diseases of nervous system and brain	6·0	*6·3*	*7·9*	10·0	*8·5*	*12·4*	7·2	*6·9*	*9·2*	30	*36*	*32*	36	*43*	*54*	33	*39*	*40*
Diseases of the eye	3·8	*4·6*	*4·9*	6·3	*5·2*	*5·5*	4·5	*4·8*	*5·1*	22	*19*	*19*	19	*23*	*32*	20	*20*	*23*
Diseases of the ear and nose ..	10·4	*8·7*	*7·5*	20·4	*15·3*	*11·6*	13·4	*10·5*	*8·6*	19	*20*	*21*	15	*16*	*24*	17	*18*	*22*
Diseases of the circulatory system	4·2	*4·1*	*4·2*	3·5	*4·0*	*8·9*	4·0	*4·1*	*5·5*	31	*34*	*29*	48	*35*	*45*	36	*35*	*36*
Diseases of the lymphatic and ductless glands	0·4	*0·4*	*0·3*	0·8	*0·4*	*0·3*	0·5	*0·4*	*0·3*	25	*49*	*39*	41	*43*	*63*	32	*48*	*46*
Diseases of the respiratory system	7·7	*11·7*	*12·8*	13·7	*16·4*	*15·9*	9·5	*13·0*	*13·6*	18	*19*	*17*	20	*16*	*20*	19	*18*	*18*
Diseases of the teeth and gums ..	2·9	*2·7*	*2·9*	2·3	*2·7*	*3·2*	2·7	*2·7*	*3·0*	11	*12*	*10*	12	*12*	*10*	12	*12*	*10*
Diseases of the digestive system	33·9	*39·9*	*30·9*	44·1	*42·5*	*51·7*	37·0	*40·6*	*36·7*	19	*21*	*21*	23	*20*	*18*	20	*20*	*20*
Diseases due to disorders of nutrition or metabolism	0·3	*0·4*	*0·2*	0·4	*0·3*	*0·2*	0·3	*0·4*	*0·2*	60	*29*	*29*	42	*66*	*38*	53	*37*	*31*
Diseases of the generative system	6·8	*7·3*	*6·6*	14·9	*11·5*	*12·1*	9·2	*8·4*	*8·1*	23	*27*	*21*	21	*22*	*21*	22	*26*	*21*
Diseases of the organs of locomotion	10·3	*11·8*	*12·8*	15·9	*13·5*	*15·6*	12·0	*12·2*	*13·5*	21	*25*	*19*	23	*21*	*20*	21	*24*	*19*
Diseases of the areolar tissue and skin	19·6	*26·3*	*32·0*	26·7	*22·2*	*23·7*	21·7	*25·2*	*29·7*	16	*17*	*17*	16	*16*	*17*	16	*17*	*17*
Diseases of the urinary organs ..	4·7	*3·2*	*2·2*	7·6	*5·2*	*3·7*	5·6	*3·8*	*2·6*	34	*34*	*30*	26	*35*	*39*	31	*34*	*34*
Tumours and cysts	2·2	*2·0*	*2·6*	2·7	*1·6*	*2·8*	2·4	*1·9*	*2·6*	15	*22*	*18*	25	*34*	*23*	18	*25*	*20*
Poisons	1·2	*0·5*	*0·8*	5·0	*4·3*	*3·5*	2·3	*1·5*	*1·6*	6	*12*	*8*	10	*10*	*13*	8	*11*	*11*
All other diseases	4·3	*2·8*	*3·7*	3·9	*3·1*	*7·5*	4·2	*2·9*	*4·8*	10	*11*	*12*	13	*12*	*20*	11	*11*	*15*
Total, all diseases	259·6	*304·1*	*309·3*	462·5	*478·9*	*645·3*	320·3	*352·4*	*402·6*	16	*18*	*18*	18	*17*	*18*	17	*17*	*18*
General injuries	7·3	*8·5*	*5·7*	7·0	*8·9*	*14·4*	7·2	*8·6*	*8·1*	29	*29*	*18*	21	*20*	*16*	27	*27*	*17*
Local injuries	68·9	*66·6*	*58·0*	74·2	*75·1*	*70·0*	70·5	*68·9*	*61·4*	19	*22*	*21*	16	*17*	*20*	18	*20*	*20*
Total, all injuries	76·2	*75·1*	*63·7*	81·2	*84·0*	*84·4*	77·7	*77·5*	*69·5*	20	*22*	*20*	16	*17*	*19*	19	*21*	*20*
Total, all disabilities ..	335·6	*379·2*	*373·0*	543·7	*562·9*	*729·7*	398·0	*429·9*	*472·1*	17	*19*	*18*	18	*17*	*18*	17	*18*	*18*

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TABLE IV.—PULMONARY TUBERCULOSIS, 1934.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Type of unit.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	2	—	2	0·6	Officers, cadets and airman pilots.	3	0·8	Under 1 year ..	—	—	Flying units ..	13	0·9
20–24 ..	4	5	9	0·8	Apprentices ..	1	0·6						
25–29 ..	5	3	8	1·0	Aircrafthands ..	4	0·8	1 year and under 5 years.	6	0·6	Depôts	7	0·9
30–34 ..	1	5	6	1·6	Clerks and office workers.	5	1·4				Miscellaneous units	9	1·2
35–39 ..	2	—	2	0·9	Drivers and open air workers.	2	1·3	5 years and under 10 years.	10	1·0			
40–44 ..	—	—	—	—									
45 and over..	1	1	2	3·6	Wireless operators, riggers and armourers.	1	0·5	10 years and over.	13	1·3			
					Fitters	10	1·3						
					Workshop workers	2	0·7						
					Metal workers ..	—	—						
					Other skilled trades	1	0·6						
Total ..	15	14	29	0·9	Total	29	0·9	Total	29	0·9	Total	29	0·9

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TABLE V.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS, 1934.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen—												
Under 18	997	—	997	785	—	785	119	—	119	904	—	904
18 and 19	2,271	20	2,291	376	*	378	99	*	100	475	*	478
20 and 21	2,931	763	3,694	266	577	330	100	102	100	366	679	430
22 and 23	2,675	1,973	4,648	237	484	341	95	94	95	332	578	436
24 and 25	2,364	2,088	4,452	247	475	354	75	92	83	322	567	437
26 and 27	2,380	1,014	3,394	195	491	284	66	99	75	261	590	359
28 and 29	1,398	373	1,771	143	477	214	59	65	60	202	542	274
30 to 34	2,248	1,116	3,364	158	406	241	34	62	43	192	468	284
35 to 39	1,080	548	1,628	198	380	259	39	27	35	237	407	294
40 and over	675	283	958	188	*	223	21	*	21	209	*	244
Airmen—all ages	19,019	8,178	27,197	262	468	324	76	82	78	338	550	402
Officers and Cadets—all ages	2,405	1,022	3,427	235	422	291	80	73	78	315	495	369
All ranks—	21,424	9,200	30,624	260	463	320	76	81	78	336	544	398

* Not calculated.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
			Average.				Average.				Average.	
	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).	No. of cases.	Case incidence per 1,000 of strength.	No. sick daily.	Duration of case (days).
Gonorrhœa—acute ..	110	5·1	20·1	67	115	12·5	23·0	73	225	7·4	43·1	70
relapse ..	8	0·4	1·2	54	8	0·9	1·2	51	16	0·5	2·4	52
Total ..	118	5·5	21·3	66	123	13·4	24·2	72	241	7·9	45·5	69
Syphilis—admissions :												
Primary	7	0·3	0·9	47	15	1·7	2·3	56	22	0·7	3·2	53
Secondary	4	0·2	0·3	28	2	0·2	0·5	92	6	0·2	0·8	49
Tertiary	—	—	—	—	—	—	—	—	—	—	—	—
Congenital	—	—	—	—	—	—	—	—	—	—	—	—
For further treatment	11	0·5	0·2	6	2	0·2	0·0	4	13	0·4	0·2	6
Total	22	1·0	1·4	23	19	2·1	2·8	55	41	1·3	4·2	38
Soft chancre	1	0·0	0·1	36	20	2·2	3·8	69	21	0·7	3·9	67
All venereal diseases												
1934	141	6·6	22·8	59	162	17·6	30·7	69	303	9·9	53·5	65
1933	*158*	*7·2*	*27·2*	*63*	*197*	*21·9*	*29·8*	*55*	*355*	*11·5*	*57·0*	*59*
1932	*169*	*7·3*	*28·7*	*62*	*191*	*21·6*	*31·2*	*60*	*360*	*11·3*	*59·9*	*61*
1931	*245*	*10·4*	*42·0*	*63*	*231*	*25·8*	*34·7*	*55*	*476*	*14·7*	*76·7*	*59*
1930	*293*	*12·7*	*50·6*	*63*	*224*	*25·4*	*30·2*	*49*	*517*	*16·1*	*80·6*	*57*
1929	*250*	*11·0*	*37·8*	*55*	*216*	*25·5*	*32·9*	*56*	*466*	*15·0*	*70·7*	*55*	
1928	*302*	*13·5*	*44·6*	*54*	*254*	*31·3*	*34·4*	*50*	*556*	*18·2*	*79·0*	*52*
1927	*269*	*12·5*	*40·8*	*55*	*259*	*30·1*	*31·6*	*45*	*528*	*17·5*	*72·4*	*50*
1926	*357*	*14·9*	*59·5*	*61*	*208*	*23·0*	*31·8*	*56*	*565*	*17·1*	*91·3*	*59*
1925	*400*	*16·8*	*57·0*	*52*	*256*	*27·9*	*36·4*	*52*	*656*	*19·9*	*93·4*	*52*
1924	*432*	*19·2*	*59·3*	*50*	*272*	*30·0*	*44·0*	*59*	*704*	*22·3*	*103·3*	*54*
1923	*482*	*23·8*	*64·8*	*49*	*299*	*31·4*	*42·3*	*52*	*781*	*26·2*	*107·2*	*50*
1922	*525*	*24·9*	*76·1*	*53*	*263*	*33·5*	*34·4*	*48*	*788*	*27·2*	*110·5*	*51*
1921	*709*	*32·3*	*94·2*	*48*	***314***	***49·2***	***52·2***	*61*	*1,023*	*36·1*	*146·4*	*52*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 21,424. (Includes Fleet Air Arm at Home.)				Mediterranean Littoral. Average strength, 4,115.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
Diseases caused by Infection.								
Dysentery—								
Clinical, primary ..	—	—	—	—	3	0·7	0·3	32
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	—	—	—	—	9	2·2	0·4	16
,, recurrent ..	—	—	—	—	1	0·2	0·0	11
Amœbic, primary ..	2	0·1	0·2	34	2	0·5	0·2	28
,, recurrent ..	1	0·0	0·0	8	—	—	—	—
Total—dysentery ..	3	0·1	0·2	29	15	3·6	0·8	20
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	—	—
Paratyphoid fever, A, B and C	—	—	—	—	1	0·2	0·1	19
Clinical enteric	1	0·0	0·1	45	2	0·5	0·2	41
Enteritis, acute	76	3·5	1·6	8	126	30·6	2·7	8
Influenza	268	12·5	6·6	9	58	14·1	1·3	8
Malaria—								
Clinical, primary	6	0·3	0·2	10	6	1·5	0·3	17
,, recurrent ..	2	0·1	0·0	6	1	0·2	0·0	13
Quartan, primary and recurrent.	—	—	—	—	—	—	—	—
Benign, tertian, primary	8	0·4	0·3	15	68	16·5	2·2	12
,, ,, recurrent	21	1·0	1·0	17	38	9·2	1·1	11
Malignant, tertian, primary	3	0·1	0·2	20	16	3·9	0·5	11
,, ,, recurrent	1	0·0	0·2	81	6	1·5	0·2	15
Total—malaria	41	1·9	1·9	17	135	32·8	4·4	12
Pyrexia of unknown origin ..	8	0·4	0·6	25	5	1·2	0·1	6
Phlebotomus (Sandfly) fever	—	—	—	—	72	17·5	1·3	7
Tuberculosis	19	0·9	3·3	63	11	2·7	2·9	95
Upper air passage infections	1,545	72·1	34·0	8	355	86·3	6·2	6
Venereal disease	141	6·6	22·8	59	66	16·0	10·3	57
Other diseases caused by infection	831	38·8	36·6	16	198	48·1	8·5	16
All diseases caused by infection	2,933	136·9	107·7	13	1,044	253·7	38·7	14
All other diseases ..	2,624	122·5	141·5	20	781	189·8	38·8	18
All diseases	5,557	259·6	249·2	16	1,825	443·5	77·5	16
Injuries—								
General injuries	156	7·3	12·3	29	26	6·3	0·8	11
Local injuries	1,476	68·9	78·2	19	294	71·4	13·5	17
All injuries	1,632	76·2	90·6	20	320	77·8	14·3	16
All disabilities	7,189	335·6	339·8	17	2,145	521·3	91·9	16

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Diseases caused by Infection, 1934.

Iraq. Average strength, 2,045.				India. Average strength, 2,110.				Total Force. Average strength, 30,624.			
No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
4	2·0	0·2	19	14	6·6	0·5	13	21	0·7	1·0	17
—	—	—	—	1	0·5	0·0	8	1	0·0	0·0	8
97	47·4	8·8	33	20	9·5	0·4	8	126	4·1	9·6	28
—	—	—	—	—	—	—	—	1	0·0	0·0	11
—	—	—	—	1	0·5	0·0	16	6	0·2	0·4	26
—	—	—	—	—	—	—	—	1	0·0	0·0	8
101	49·4	9·0	32	36	17·1	1·0	10	156	5·1	11·1	26
—	—	—	—	1	0·5	0·2	83	1	0·0	0·2	83
—	—	0·1	—	—	—	—	—	1	0·0	0·2	63
3	1·5	0·8	100	1	0·5	0·2	64	7	0·2	1·3	70
134	65·5	3·6	10	28	13·3	0·5	7	376	12·3	8·7	8
9	4·4	0·3	12	40	19·0	1·1	10	390	12·7	9·7	9
3	1·5	0·1	12	4	1·9	0·2	17	20	0·7	0·8	15
1	0·5	0·0	7	4	1·9	0·1	10	8	0·3	0·2	9
—	—	—	—	1	0·5	0·0	16	1	0·0	0·0	16
29	14·2	1·5	18	65	30·8	3·0	17	174	5·7	7·1	15
11	5·4	0·3	12	42	19·9	2·2	19	116	3·8	4·9	15
4	2·0	0·3	29	23	10·9	1·3	21	46	1·5	2·4	19
1	0·5	0·0	11	—	—	—	—	8	0·3	0·5	23
49	24·0	2·3	17	139	65·9	6·9	18	373	12·2	15·9	16
13	6·4	0·4	10	1	0·5	0·1	23	27	0·9	1·1	14
152	74·3	3·3	8	59	28·0	1·1	7	283	9·2	5·7	7
4	2·0	2·5	228	1	0·5	0·5	189	37	1·2	9·9	98
212	103·7	5·3	9	153	72·5	3·1	7	2,326	75·9	49·6	8
40	19·6	10·3	94	11	5·2	2·4	80	303	9·9	53·5	65
87	42·5	3·9	16	64	30·3	2·0	11	1,215	39·7	52·5	16
804	393·2	41·6	19	534	253·1	19·2	13	5,495	179·4	219·5	15
449	219·6	31·9	26	325	154·0	16·6	19	4,317	141·0	238·2	20
1,253	612·7	73·5	21	859	407·1	35·8	15	9,812	320·3	457·7	17
16	7·8	1·8	41	13	6·2	0·8	23	220	7·2	16·0	27
163	79·7	6·3	14	165	78·2	6·2	14	2,159	70·5	108·0	18
179	87·5	8·1	16	178	84·4	7·0	14	2,379	77·7	124·0	19
1,432	700·2	81·6	21	1,037	491·5	42·8	15	12,191	398·0	581·7	17

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT, 1934.

Type of unit.	——	Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	171·9	0·4	3·1	8·3	18	505·0	1·8	5·2	24·9	18	257·4	0·8	3·6	12·5	18
	Injury	71·1	3·1	0·2	4·0	21	90·0	2·4	—	4·2	17	76·0	2·9	0·1	4·1	20
	Total	243·0	3·5	3·3	12·3	19	595·0	4·2	5·2	29·1	18	333·4	3·7	3·8	16·6	18
Depôts (store and repair), ground schools and armoured car companies.	Disease	370·6	1·0	6·1	15·8	16	405·9	2·9	3·2	19·8	18	384·1	1·7	5·0	17·4	16
	Injury	93·8	0·8	0·4	5·4	21	71·3	—	—	3·1	16	85·1	0·5	0·2	4·5	19
	Total	464·4	1·8	6·5	21·2	17	477·2	2·9	3·2	22·9	18	469·2	2·2	5·2	21·9	17
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	336·9	1·5	8·3	14·6	16	467·8	0·9	4·4	22·7	18	375·8	1·3	7·2	17·0	16
	Injury	70·5	1·3	0·4	3·6	19	79·6	1·8	—	3·3	15	73·2	1·4	0·3	3·5	18
	Total	407·4	2·8	8·7	18·2	16	547·4	2·7	4·4	26·0	17	449·0	2·7	7·4	20·5	17
All units	Disease	259·6	0·8	5·1	11·7	16	462·5	2·0	4·3	22·7	18	320·3	1·2	4·9	14·9	17
	Injury	76·2	2·1	0·3	4·2	20	81·2	1·4	—	3·6	16	77·7	1·9	0·2	4·1	19
	Total	335·6	2·9	5·4	15·9	17	543·7	3·4	4·3	26·3	18	398·0	3·1	5·1	19·0	17

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS, 1934

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	23·1	57·9	6·2	9·3	38·8	148·1	283·4	76·4	359·8
Aircrafthands	13·0	78·8	10·8	10·8	41·7	193·0	348·1	73·2	421·3
Apprentices	20·3	267·9	—	12·7	67·1	264·5	632·5	115·2	747·7
Wireless operators, riggers, and armourers	11·2	51·2	16·5	8·0	35·7	163·6	286·2	74·1	360·3
Clerks and office workers ..	11·6	64·0	12·7	9·1	41·9	180·9	320·2	64·8	385·0
Drivers and open air workers	13·5	82·2	15·5	9·4	31·6	266·7	418·9	95·6	514·5
Fitters	8·8	57·2	8·2	6·6	28·2	151·9	260·9	82·9	343·8
Metal workers	9·8	68·4	7·0	9·8	34·9	157·6	287·5	82·3	369·8
Workshop workers	9·6	58·2	14·6	10·6	27·5	151·3	271·8	71·3	343·1
Other skilled workers ..	8·9	80·9	8·3	16·5	42·5	174·9	332·0	56·1	388·1
Total force	12·7	75·9	9·9	9·5	37·0	175·3	320·3	77·7	398·0

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TABLE X.—INJURIES, 1934.

—	Number of cases.							
	Airscrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	21	—	74	22	20	293	430	*18*
Organized games ..	—	937	—	—	—	—	937	*40*
Off duty	—	164	4	323	6	382	879	*38*
Not stated	—	47	—	4	2	44	97	*4*
Total	21	1,148	78	349	28	719	2,343	*100*
Nature of injury:								
General	—	13	47	101	—	34	195	*8*
Head or face ..	2	148	17	112	2	135	416	*18*
Trunk	—	78	—	14	—	40	132	*6*
Upper extremity .	17	147	7	44	19	154	388	*16*
Lower extremity .	2	762	7	78	7	356	1,212	*52*
Total	21	1,148	78	349	28	719	2,343	*100*
Deaths:								
On duty	2	—	24	1	—	—	27	*47*
Organized games	—	1	—	—	—	—	1	*2*
Off duty	—	2	2	17	—	9	30	*51*
Total	2	3	26	18	—	9	58	*100*

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Table XI.—Flying Casualties on Duty, 1934.

Rank.	Number of casualties.			
	1931.	1932.	1933.	1934.
Officers.				
Killed	*40*	*29*	*26*	12
Injured	*39*	*37*	*23*	24
Cadets.				
Killed	*3*	—	*1*	3
Injured	*2*	*1*	*4*	2
Airmen.				
Killed	*25*	*17*	*21*	9
Injured	*38*	*34*	*36*	24
All ranks.				
Killed	*68*	*46*	*48*	24
Injured	*79*	*72*	*63*	50
Total casualties	*147*	*118*	*111*	74
Deaths—as a percentage of total flying casualties ..	*46*	*39*	*43*	32
Average duration of each case (days) :—				
Deaths included	*25*	*24*	*26*	36
Deaths excluded	*46*	*39*	*45*	54

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TABLE XII.—NOSOLOGICAL TABLE: HOME, ABROAD, AND TOTAL FORCE, 1934.

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases caused by infection.						Days.							Days.						Days.
Diphtheria	8	—	—	0·4	0·8	38	2	—	—	—	0·2	0·1	22	10	—	—	0·3	1·0	35
*Dysentery	3	—	—	0·1	0·2	29	153	3	1	—	16·6	10·9	26	156	3	—	5·1	11·1	26
*Enteric group	1	—	—	0·0	0·1	45	8	—	2	—	0·9	1·6	74	9	—	—	0·3	1·7	71
*Enteritis (acute) and gastro-enteritis (acute)	76	—	—	3·5	1·6	8	300	—	—	—	32·6	7·1	9	376	—	—	12·3	8·7	8
*Influenza (including influenzal pneumonia)	268	—	—	12·5	6·6	9	122	—	1	—	13·3	3·1	9	390	—	—	12·7	9·7	9
Leishmaniasis	1	—	—	0·0	0·0	8	1	—	—	—	0·1	0·1	41	2	—	—	0·1	0·1	24
*Malaria	41	—	—	1·9	1·9	17	332	2	2	—	36·1	14·0	15	373	2	—	12·2	15·9	16
Measles	14	—	—	0·7	0·8	21	6	—	—	—	0·7	0·3	18	20	—	—	0·7	1·1	20
Mumps	21	—	—	1·0	1·1	20	3	—	—	—	0·3	0·1	17	24	—	—	0·8	1·3	19
Pneumonia	27	1	—	1·3	3·6	48	16	3	1	—	1·7	1·8	41	43	4	—	1·4	5·4	46
*Pyrexia of unknown origin	8	—	—	0·4	0·6	25	19	—	—	—	2·1	0·5	10	27	—	—	0·9	1·1	14
Rheumatism (acute) ..	26	—	2	1·2	3·8	54	4	—	—	—	0·4	0·4	34	30	—	2	1·0	4·2	51
Rubella	83	—	—	3·9	3·9	17	6	—	—	—	0·7	0·2	12	89	—	—	2·9	4·1	17
*Phlebotomus (sandfly) fever	—	—	—	—	—	—	283	—	—	—	30·8	5·7	7	283	—	—	9·2	5·7	7
Scarlet fever	21	—	—	1·0	2·6	46	2	—	—	—	0·2	0·1	22	23	—	—	0·8	2·8	44
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis.																			
Respiratory	15	1	12	0·7	2·0	48	14	—	13	15	1·5	4·8	126	29	1	27	0·9	6·8	86
Other	4	—	2	0·2	1·3	119	4	—	3	1	0·4	1·8	164	8	—	3	0·3	3·1	142
*TOTAL—TUBERCULOSIS	19	1	14	0·9	3·3	63	18	—	16	16	2·0	6·6	134	37	1	30	1·2	9·9	98

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Acute upper air passage infections.																			
Laryngitis	23	—	—	1·1	0·5	8	13	—	1	—	1·4	0·6	18	36	—	—	1·2	1·1	11
Pharyngitis and naso-pharyngitis	816	—	—	38·1	16·5	7	376	—	—	—	40·9	6·3	6	1,192	—	—	38·9	22·8	7
Rhinitis, acute catarrhal	12	—	—	0·6	0·3	10	17	—	—	—	1·8	0·2	5	29	—	—	0·9	0·5	7
Tonsillitis (including quinsy and Vincent's angina)	694	—	—	32·4	16·6	9	375	—	1	—	40·8	8·5	8	1,069	—	—	34·9	25·2	9
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	1,545	—	—	72·1	34·0	8	781	—	2	—	84·9	15·7	7	2,326	—	—	75·9	49·6	8
Vaccinia	135	—	—	6·3	2·8	8	—	—	—	—	—	—	—	135	—	—	4·4	2·8	8
Venereal disease.																			
Gonorrhœa	118	—	—	5·5	21·3	66	123	—	2	1	13·4	24·2	72	241	—	1	7·9	45·5	69
Syphilis	22	—	—	1·0	1·4	23	19	—	—	—	2·1	2·8	55	41	—	—	1·3	4·2	38
Soft chancre	1	—	—	0·0	0·1	36	20	—	1	—	2·2	3·8	69	21	—	—	0·7	3·9	67
*TOTAL—VENEREAL DISEASES	141	—	—	6·6	22·8	59	162	—	3	1	17·6	30·7	69	303	—	1	9·9	53·5	65
Abscess, hand and finger	14	—	—	0·7	0·8	20	9	—	—	—	1·0	0·2	10	23	—	—	0·8	1·0	16
Abscess, other	26	—	—	1·2	1·0	14	16	—	—	—	1·7	0·7	16	42	—	—	1·4	1·7	15
Boils	162	—	—	7·6	3·8	9	68	—	—	—	7·4	1·9	10	230	—	—	7·5	5·7	9
Carbuncles	19	—	—	0·9	0·7	14	10	—	—	—	1·1	0·2	8	29	—	—	0·9	0·9	12
Cellulitis	191	—	—	8·9	5·4	10	179	—	—	—	19·5	5·4	11	370	—	—	12·1	10·8	11
Lymphadenitis and lymph-angitis	39	—	—	1·8	2·2	21	23	—	1	—	2·5	1·7	27	62	—	—	2·0	3·9	23
Osteo-myelitis, periostitis, and osteitis	8	—	—	0·4	1·0	43	8	—	—	—	0·9	0·2	10	16	—	—	0·5	1·2	27
Pyæmia, septicæmia ..	2	1	—	0·1	0·2	35	1	—	1	—	0·1	0·2	89	3	1	—	0·1	0·4	53
Ulcer	1	—	—	0·0	0·0	18	4	—	—	—	0·4	0·3	24	5	—	—	0·2	0·3	23
Other diseases caused by infection	33	2	—	1·5	1·9	21	26	—	2	—	2·8	1·8	26	59	2	—	1·9	3·8	23
*TOTAL—DISEASES CAUSED BY INFECTION	2,933	5	16	136·9	107·7	13	2,562	8	32	17	278·5	111·8	16	5,495	13	33	179·4	219·5	15

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE: HOME, ABROAD, AND TOTAL FORCE, 1934—*continued.*

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers ..	55	—	—	2·6	2·0	13	25	—	—	—	2·7	0·7	11	80	—	—	2·6	2·7	13
Effects of parasites ..	28	—	—	1·3	1·2	16	28	—	1	—	3·0	1·1	14	56	—	—	1·8	2·3	15
Other diseases classified by systems.																			
Diseases of nervous system and brain.																			
Neuritis	17	—	1	0·8	1·2	26	17	—	1	—	1·8	0·8	18	34	—	1	1·1	2·0	22
Nerve paralysis	10	—	—	0·5	1·5	55	4	—	2	—	0·4	0·8	70	14	—	—	0·5	2·3	59
Epilepsy (including observation cases)	12	—	10	0·6	0·8	25	3	—	3	2	0·3	0·8	103	15	—	12	0·5	1·7	40
Psychoneurosis	34	—	18	1·6	2·9	31	21	—	7	3	2·3	2·8	49	55	—	21	1·8	5·7	38
Mental diseases (including observation cases) ..	12	—	11	0·6	1·5	45	4	—	3	4	0·4	1·7	157	16	—	15	0·5	3·2	73
Other diseases of nervous system	43	1	5	2·0	2·8	23	43	2	3	1	4·7	2·1	18	86	3	6	2·8	4·9	21
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	128	1	45	6·0	10·6	30	92	2	19	10	10·0	9·1	36	220	3	55	7·2	19·8	33

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Diseases of the Eye.																		
Infections	55	—	2	2·6	2·5	17	47	—	—	—	5·1	1·5	11	102	—	2	3·3	4·0	14
Other diseases of the eye	26	—	5	1·2	2·3	32	11	—	4	2	1·2	1·5	49	37	—	7	1·2	3·7	37
TOTAL—DISEASES OF THE EYE	81	—	7	3·8	4·8	22	58	—	4	2	6·3	2·9	19	139	—	9	4·5	7·7	20
Diseases of ear and nose.																			
Otitis media, acute ..	31	—	—	1·4	1·6	19	28	—	1	—	3·0	1·6	20	59	—	—	1·9	3·2	20
Otitis media, chronic ..	11	—	5	0·5	1·2	40	13	—	4	2	1·4	1·2	35	24	—	7	0·8	2·4	37
Other diseases of ear and nose	181	—	—	8·4	8·7	18	147	—	2	1	16·0	4·8	12	328	—	1	10·7	13·5	15
TOTAL—DISEASES OF EAR AND NOSE	223	—	5	10·4	11·5	19	188	—	7	3	20·4	7·6	15	411	—	8	13·4	19·1	17
Diseases of the circulatory system.																			
Endocarditis, acute ..	7	1	5	0·3	1·2	65	—	—	1	1	—	0·3	—	7	1	6	0·2	1·6	84
Valvular disease of the heart	1	—	1	0·0	0·1	22	1	—	1	2	0·1	0·7	285	2	—	3	0·1	0·8	154
Disease of myocardium ..	6	2	—	0·3	1·0	61	3	1	—	—	0·3	0·2	30	9	3	—	0·3	1·2	50
Disordered action of the heart	26	—	1	1·2	2·1	30	14	—	5	1	1·5	2·1	55	40	—	2	1·3	4·2	39
Varix	24	—	1	1·1	1·5	22	2	—	1	—	0·2	0·1	14	26	—	1	0·8	1·6	22
Other diseases of the circulatory system ..	27	1	2	1·3	1·9	25	12	1	—	—	1·3	0·7	20	39	2	2	1·3	2·5	24
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	91	4	10	4·2	7·8	31	32	2	8	4	3·5	4·2	48	123	6	14	4·0	12·0	36
Diseases of lymphatic system and ductless glands	9	—	—	0·4	0·6	25	7	1	3	3	0·8	0·8	41	16	1	3	0·5	1·4	32

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TABLE XII.—NOSOLOGICAL TABLE: HOME, ABROAD, AND TOTAL FORCE, 1934—*continued.*

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory system. (*a*)																			
Bronchitis	75	—	2	3·5	3·0	15	60	—	3	—	6·5	3·3	20	135	—	2	4·4	6·4	17
Tracheitis	48	—	—	2·2	1·3	10	40	—	—	—	4·3	0·7	6	88	—	—	2·9	1·9	8
Asthma	5	—	1	0·2	0·3	21	5	—	—	—	0·5	0·3	21	10	—	1	0·3	0·6	21
Pleurisy	29	—	1	1·4	2·4	30	17	—	3	—	1·8	2·3	49	46	—	1	1·5	4·7	37
Other diseases of the respiratory system ..	7	—	2	0·3	1·1	59	4	—	—	—	0·4	0·3	30	11	—	2	0·4	1·5	48
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	164	—	6	7·7	8·1	18	126	—	6	—	13·7	6·9	20	290	—	6	9·5	15·0	19
Diseases of teeth and gums	62	—	—	2·9	1·9	11	21	—	—	—	2·3	0·7	12	83	—	—	2·7	2·7	12
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	188	—	—	8·8	6·8	13	21	—	—	—	2·3	1·0	18	209	—	—	6·8	7·9	14
Gastritis, acute	102	—	—	4·8	2·6	9	60	—	—	—	6·5	1·5	9	162	—	—	5·3	4·1	9
Gastritis, chronic ..	4	—	1	0·2	0·4	35	4	—	—	—	0·4	0·4	32	8	—	1	0·3	0·7	34

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Dyspepsia	21	—	—	1·0	1·0	17	15	—	—	—	1·6	0·6	14	36	—	—	1·2	1·5	16
Appendicitis	132	1	—	6·2	9·0	25	95	3	3	—	10·3	7·7	30	227	4	—	7·4	16·7	27
Hernia	54	—	—	2·5	4·7	32	11	—	1	—	1·2	0·9	29	65	—	—	2·1	5·6	31
Constipation	42	—	—	2·0	0·9	8	34	—	—	—	3·7	0·8	8	76	—	—	2·5	1·7	8
Colic	23	—	—	1·1	0·6	10	20	—	—	—	2·2	0·6	11	43	—	—	1·4	1·2	10
Hæmorrhoids	45	—	—	2·1	2·4	19	32	—	—	—	3·5	1·2	14	77	—	—	2·5	3·6	17
Jaundice	18	—	—	0·8	1·1	22	49	—	—	—	5·3	3·1	23	67	—	—	2·2	4·2	23
Other diseases of the digestive system	98	—	3	4·6	8·6	32	65	1	9	—	7·1	7·3	41	163	1	3	5·3	15·9	35
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	727	1	4	33·9	38·1	19	406	4	13	—	44·1	25·1	23	1,133	5	4	37·0	63·1	20
Diseases due to disorders of nutrition or metabolism	6	1	2	0·3	1·0	60	4	—	1	1	0·4	0·5	42	10	1	3	0·3	1·4	53
Diseases of the Generative System.																			
Phimosis	19	—	—	0·9	0·9	17	26	—	—	—	2·8	1·1	16	45	—	—	1·5	2·0	16
Balanitis	13	—	—	0·6	0·6	18	10	—	—	—	1·1	0·3	10	23	—	—	0·8	0·9	14
Urethritis	56	—	—	2·6	3·4	22	52	—	—	—	5·7	3·9	27	108	—	—	3·5	7·2	24
Varicocele	6	—	—	0·3	0·7	41	5	—	—	—	0·5	0·3	20	11	—	—	0·4	0·9	31
Hydrocele	8	—	—	0·4	0·4	18	1	—	—	—	0·1	0·0	4	9	—	—	0·3	0·4	16
Epididymitis	5	—	—	0·2	0·4	26	2	—	—	—	0·2	0·2	34	7	—	—	0·2	0·5	28
Other diseases of the generative system	38	—	—	1·8	2·7	26	41	—	1	—	4·5	2·3	21	79	—	—	2·6	5·0	23
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	145	—	—	6·8	9·0	23	137	—	1	—	14·9	8·0	21	282	—	—	9·2	17·1	22

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 32.

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TABLE XII.—NOSOLOGICAL TABLE: HOME, ABROAD, AND TOTAL FORCE, 1934—*continued.*

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	10	—	2	0·5	1·8	66	5	—	2	—	0·5	1·0	76	15	—	2	0·5	2·9	70
Diseases of the joints ..	64	—	2	3·0	5·3	30	57	—	4	—	6·2	5·1	33	121	—	2	4·0	10·5	32
Myalgia and lumbago ..	66	—	—	3·1	1·7	10	37	—	—	—	4·0	0·9	9	103	—	—	3·4	2·6	9
Diseases of muscles, tendons and bursæ ..	59	—	—	2·8	2·1	13	39	—	1	—	4·2	1·3	12	98	—	—	3·2	3·4	13
Deformities of limbs ..	21	—	3	1·0	1·4	24	8	—	3	—	0·9	0·8	35	29	—	3	0·9	2·2	27
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	220	—	7	10·3	12·4	21	146	—	10	—	15·9	9·1	23	366	—	7	12·0	21·5	21
Diseases of Areolar Tissue or Skin.																			
Impetigo	81	—	—	3·8	3·1	14	50	—	—	—	5·4	1·9	14	131	—	—	4·3	5·0	14
Scabies	45	—	—	2·1	1·5	12	2	—	—	—	0·2	0·0	8	47	—	—	1·5	1·5	12
Dermatitis	39	—	—	1·8	1·9	18	34	—	—	—	3·7	1·7	18	73	—	—	2·4	3·6	18
Urticaria	27	—	—	1·3	0·7	10	13	—	—	—	1·4	0·5	14	40	—	—	1·3	1·2	11
Eczema	16	—	1	0·7	1·2	27	12	—	—	—	1·3	0·6	17	28	—	1	0·9	1·7	23
Herpes	31	—	—	1·4	0·9	11	15	—	—	—	1·6	0·5	13	46	—	—	1·5	1·4	11
Psoriasis	7	—	—	0·3	0·7	38	4	—	—	—	0·4	0·1	12	11	—	—	0·4	0·9	29
Tinea cruris	68	—	—	3·2	2·2	12	31	—	—	—	3·4	0·8	10	99	—	—	3·2	3·0	11

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Other tinea ..	13	—	—	0·4	0·5	13	19	—	—	—	2·1	0·5	10	32	—	—	1·0	1·0	11
Ingrowing toe-nail ..	14	—	—	0·7	0·7	18	21	—	—	—	2·3	0·6	11	35	—	—	1·1	1·3	14
Other diseases of the skin	79	—	—	3·7	4·8	22	45	—	4	—	4·9	3·4	27	124	—	—	4·0	8·2	24
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	420	—	1	19·6	18·2	16	246	—	4	—	26·7	10·7	16	666	—	1	21·7	28·9	16
Diseases of Urinary Organs.																			
Nephritis	12	—	2	0·6	1·8	54	1	—	1	—	0·1	0·2	82	13	—	2	0·4	2·0	57
Pyelitis	13	—	1	0·6	1·5	43	9	—	—	—	1·0	1·0	39	22	—	1	0·7	2·5	41
Cystitis	13	—	—	0·6	0·6	18	12	—	—	—	1·3	0·9	28	25	—	—	0·8	1·5	22
Incontinence of urine ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Albuminuria	20	—	—	0·9	1·0	17	—	—	—	—	—	—	—	20	—	—	0·7	1·0	17
Other diseases of urinary organs	42	—	3	2·0	4·5	39	48	—	4	—	5·2	2·8	21	90	—	3	2·9	7·3	30
TOTAL—DISEASES OF URINARY ORGANS ..	100	—	6	4·7	9·4	34	70	—	5	—	7·6	4·9	26	170	—	6	5·6	14·3	31
Tumours and Cysts.																			
Tumours, non-malignant	14	—	—	0·7	0·8	21	10	—	1	—	1·1	0·9	32	24	—	—	0·8	1·7	26
Tumours, malignant ..	3	3	—	0·1	0·3	36	1	1	1	—	0·1	0·2	81	4	4	—	0·1	0·5	47
Tumours, undiagnosed ..	2	—	—	0·1	0·1	12	—	—	—	—	—	—	—	2	—	—	0·1	0·1	12
Cysts	28	—	—	1·3	0·7	10	14	—	—	—	1·5	0·6	16	42	—	—	1·4	1·3	12
TOTAL—TUMOURS AND CYSTS	47	3	—	2·2	1·9	15	25	1	2	—	2·7	1·7	25	72	4	—	2·4	3·6	18
Poisons.																			
Effects of alcohol ..	—	—	—	—	—	—	2	—	—	—	0·2	0·1	14	2	—	—	0·1	0·1	14
Other poisons	25	3	—	1·2	0·4	6	44	—	—	—	4·8	1·1	9	69	3	—	2·3	1·5	8
TOTAL—POISONS ..	25	3	—	1·2	0·4	6	46	—	—	—	5·0	1·2	10	71	3	—	2·3	1·6	8
No appreciable disease ..	76	—	—	3·5	2·0	10	23	—	—	—	2·5	0·6	10	99	—	—	3·2	2·6	10
Debility	17	—	—	0·8	0·5	10	13	—	2	—	1·4	0·7	20	30	—	—	1·0	1·2	14
TOTAL—ALL DISEASES	5,557	18	109	259·6	249·2	16	4,255	18	118	40	462·5	208·5	18	9,812	36	149	320·3	457·7	17

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TABLE XII.—NOSOLOGICAL TABLE : HOME, ABROAD, AND TOTAL FORCE, 1934—*continued.*

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
General Injuries.						Days.							Days.						Days.
Burns and scalds ..	5	—	—	0·2	0·5	36	3	1	1	—	0·3	0·8	99	8	1	—	0·3	1·3	59
Heat exhaustion, heat hyperpyrexia and sunstroke	1	—	—	0·0	0·0	4	9	—	—	—	1·0	0·3	10	10	—	—	0·3	0·3	9
Suffocation and strangulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drowning and effects of immersion	4	4	—	0·2	0·0	—	4	3	—	—	0·4	0·0	1	8	7	—	0·3	0·0	1
Minor injuries	61	—	—	2·8	1·7	10	24	—	—	—	2·6	0·6	10	85	—	—	2·8	2·3	10
Multiple fractures ..	75	28	1	3·5	9·9	48	14	6	4	—	1·5	1·6	41	89	34	1	2·9	11·5	47
Gunshot wounds.. ..	1	—	—	0·0	0·1	42	1	—	—	—	0·1	0·1	25	2	—	—	0·1	0·2	34
Multiple wounds.. ..	—	—	—	—	—	—	—	—	—	—	—	0·2	—	—	—	—	—	0·2	—
Other injuries	9	—	—	0·4	0·1	6	9	1	—	—	1·0	0·2	6	18	1	—	0·6	0·3	6
*TOTAL—GENERAL INJURIES	156	32	1	7·3	12·3	29	64	11	5	—	7·0	3·7	21	220	43	1	7·2	16·0	27
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds..	107	—	1	5·0	3·1	11	40	—	—	—	4·3	1·1	10	147	—	1	4·8	4·3	11
Gunshot wounds.. ..	2	1	—	0·1	0·1	15	—	—	—	—	—	—	—	2	1	—	0·1	0·1	15
Burns and scalds ..	6	—	—	0·3	0·1	7	—	—	—	—	—	—	—	6	—	—	0·2	0·1	7
Fracture of skull ..	22	11	—	1·0	1·7	28	2	1	—	—	0·2	0·1	22	24	12	—	0·8	1·8	28
Concussion of brain ..	136	—	—	6·3	7·6	20	44	—	1	—	4·8	2·0	16	180	—	—	5·9	9·5	19
Other fractures	22	—	—	1·0	1·2	21	9	—	—	—	1·0	0·5	19	31	—	—	1·0	1·7	20
Other injuries	20	—	—	0·9	1·0	19	11	—	—	—	1·2	0·2	6	31	—	—	1·0	1·2	14
TOTAL—HEAD AND NECK	315	12	1	14·7	14·9	17	106	1	1	—	11·5	3·9	13	421	13	1	13·7	18·8	16

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(ii) Trunk:																			
Contusions and wounds..	46	—	—	2·1	1·5	12	26	—	—	—	2·8	0·7	10	72	—	—	2·4	2·2	11
Gunshot wounds.. ..	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	—	—
Fractures	10	1	—	0·5	1·4	49	6	—	2	—	0·7	0·9	53	16	1	—	0·5	2·2	51
Other injuries	24	—	—	1·1	0·5	7	14	—	—	—	1·5	0·3	8	38	—	—	1·2	0·8	7
TOTAL—TRUNK	80	1	—	3·7	3·3	15	47	1	2	—	5·1	1·9	15	127	2	—	4·1	5·2	15
(iii) Upper Extremity:																			
Contusions and wounds..	89	—	—	4·2	2·8	11	35	—	—	—	3·8	1·3	14	124	—	—	4·0	4·1	12
Gunshot wounds.. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burns and scalds ..	8	—	—	0·4	0·3	14	4	—	—	—	0·4	0·2	18	12	—	—	0·4	0·5	15
Fractures..	122	—	—	5·7	11·5	34	56	—	—	—	6·1	5·1	33	178	—	—	5·8	16·6	34
Dislocations	22	—	—	1·0	1·2	19	12	—	—	—	1·3	0·6	17	34	—	—	1·1	1·8	18
Sprains	17	—	—	0·8	0·4	10	7	—	—	—	0·8	0·2	8	24	—	—	0·8	0·6	9
Other injuries	14	—	—	0·7	0·8	21	2	—	—	—	0·2	0·2	34	16	—	—	0·5	1·0	23
TOTAL—UPPER EXTREMITY	272	—	—	12·7	17·0	23	116	—	—	—	12·6	7·6	24	388	—	—	12·7	24·6	23
(iv) Total—Hand and Wrist	131	—	—	6·1	6·9	19	50	—	—	—	5·4	1·9	14	181	—	—	5·9	8·8	18
(v) Total—Rest of Limb	141	—	—	6·6	10·1	26	66	—	—	—	7·2	5·7	31	207	—	—	6·8	15·8	28
(vi) Lower Extremity:																			
Contusions and wounds..	187	—	—	8·7	5·1	10	98	—	—	—	10·7	2·3	9	285	—	—	9·3	7·4	9
Gunshot wounds.. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burns and scalds ..	11	—	—	0·5	0·5	17	10	—	—	—	1·1	0·5	20	21	—	—	0·7	1·1	18
Fractures..	98	—	—	4·6	16·8	63	37	—	—	—	4·0	5·2	51	135	—	—	4·4	22·0	59
Dislocations	1	—	—	0·0	0·2	75	2	—	1	—	0·2	0·4	64	3	—	—	0·1	0·6	68
Sprains	301	—	—	14·1	10·3	12	149	—	—	—	16·2	4·6	11	450	—	—	14·7	15·0	12
Other injuries	211	—	4	9·8	10.1	18	118	—	—	—	12·8	3·4	10	329	—	4	10·7	13·5	15
TOTAL—LOWER EXTREMITY	809	—	4	37·8	43·1	19	414	—	1	—	45·0	16·4	14	1,223	—	4	39·9	59·4	18

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE: HOME, ABROAD, AND TOTAL FORCE, 1934—*continued.*

Disease.	Home. Average strength, 21,424.						Abroad. Average strength, 9,200.							Total Force. Average strength, 30,624.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) TOTAL—FOOT AND ANKLE	340	—	—	15·9	10·3	11	151	—	1	—	16·4	4·3	10	491	—	—	16·0	14·5	11
(viii) TOTAL—KNEE ..	240	—	1	11·2	10·9	17	154	—	—	—	16·7	5·5	13	394	—	1	12·9	16·4	15
(ix) TOTAL—REST OF LIMB..	229	—	3	10·7	21·9	35	109	—	—	—	11·8	6·6	22	338	—	3	11·0	28·6	31
*TOTAL—ALL LOCAL INJURIES	1,476	13	5	68·9	78·2	19	683	2	4	—	74·2	29·7	16	2,159	15	5	70·5	108·0	18
*TOTAL—ALL INJURIES ..	1,632	45	6	76·2	90·6	20	747	13	9	—	81·2	33·4	16	2,379	58	6	77·7	124·0	19
*TOTAL—ALL DISEASES ..	5,557	18	109	259·6	249·2	16	4,255	18	118	40	462·5	208·5	18	9,812	36	149	320·3	457·7	17
*TOTAL—ALL DISABILITIES	7,189	63	115	335·6	339·8	17	5,002	31	127	40	543·7	241·9	18	12,191	94	155	398·0	581·7	17

* Analysed in further detail in table VII.

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CHART 1. SICKNESS AT HOME.—1934.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1000 OF STRENGTH.

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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1934

General

48. The incidence of total sickness for the force at home, including the Fleet Air Arm, was 531 per 1,000 of strength compared with 636 in 1933 and average incidences over the two preceding periods of 567 and 774 per 1,000. Excluding cases of not more than 48 hours' duration, which are not admitted to either hospitals or sick quarters for treatment, the sickness incidence for 1934 was 336, compared with 412 in 1933, and average incidences of 379 and 373 per 1,000 during the two preceding periods. The number of sick daily, including cases of not more than 48 hours' duration, was 16·7 per 1,000 in 1934, compared with 18·6 in 1933, and average incidences of 20·0 and 20·3 per 1,000 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the constantly sick figure was 15·8 in 1934, compared with 17·8 in 1933 and average rates of 19·2 and 18·6 per 1,000 during the two preceding periods. The average number of days' sickness per head in 1934 at 6·1 including 48 hours' cases, compares with 6·8 in 1933 and averages of 7·3 and 7·4 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the average number of days' sickness per head was 5·8 in 1934 as compared with 6·5 in 1932, and averages of 7·0 and 6·8 for the two preceding periods.

49. (i) Excluding cases of not more than 48 hours' duration, the average duration of each case in days was 17 in 1934 compared with 16 in 1933 and average rates of 19 and 18 days during the two preceding periods. Including cases of not more than 48 hours' duration, the average duration of each case was 11 days in 1934, the same figure as in 1933, and compares with averages of 13 and 10 days over the two preceding periods.

(ii) The decrease in the sickness incidence in 1934 from 1933 is mainly due to a fall in the incidence of diseases caused by infection from 195·4 in 1933 to 136·9 per 1,000 in 1934. The disease which accounted for this decrease was influenza, the incidence of which fell to 12·5 in 1934 from 74·8 per 1,000 in 1933; other incidences worthy of note were those for appendicitis which decreased from 10·0 per 1,000 in 1933 to 6·2 in 1934, and impetigo and tinea cruris which fell from 6·1 and 7·5 to 3·8 and 3·2 per 1,000 respectively in 1934.

(iii) The death rate fell from 3·6 per 1,000 of strength in 1933 to 2·9 in 1934 and compares with average incidences of 3·7 and 3·2 during the two preceding periods. The final invaliding incidence also fell, the figure being 5·4 compared with 6·7 in 1933 and averages of 7·8 and 11·5 per 1,000 of strength for the two preceding periods.

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50. Table XIII, page 48, analyses for officers, cadets and airmen by age groups, certain diseases which the chief nosological table over a number of years has demonstrated to have been responsible for the bulk of the medical non-effectiveness at home. Table XIII also permits of a more detailed analysis of the incidence of disease at home in the age groups given in Table V, page 24.

51. (i) Analysing the incidence of all disabilities for airmen—all ages, and the officers' and cadets' group, the incidence for airmen, at 338 compares with the officers' and cadets' group at 315 per 1,000, and an incidence for all ranks at home of 336 per 1,000. The latter figure compares favourably with that for 1933 at 411·6 per 1,000. In the age groups for airmen, the incidence for all disabilities is highest at 904 per 1,000 in the under 18 group, i.e., in the apprentices' group, and gradually gets lower until the lowest incidence is reached in the age group 30–34 at 192 per 1,000. The incidence rises again to 209 per 1,000 in the oldest group, i.e. 40 and over. The figure 904 for the under 18 years of age group is by far the highest in the last 5 years, and is largely accounted for by the considerable increase in disease in the apprentices trade group. This increase is mainly due to the high incidence in upper air passage infections.

(ii) The incidence of all diseases for airmen—all ages—is 262 compared with 235 for officers and cadets, and 260 per 1,000 for all ranks at home. This latter incidence in 1934 compares with incidences of 332, 274 and 323 per 1,000 for the years 1933, 1932 and 1931 respectively. Considering the age groups for airmen alone, the incidence of all diseases is highest in the youngest group at 785 per 1,000 compared with the lowest incidence in the age group 28–29 at 143 per 1,000.

(iii) The incidence of injury for airmen—all ages, is 76 compared with 80 for officers and cadets, and an incidence for all ranks of 76 per 1,000, which compares further with incidences of 80, 81 and 73 per 1,000 for 1933, 1932 and 1931 respectively. Thus it is noted that there has been no marked variation in this incidence during the past four years. Analysing the injuries incidence for the age groups of airmen, the highest incidence is recorded in the age groups under 18 and 20–21, there is then a progressive decrease with increase of age until age group 40 and over is reached, with an incidence of 21 per 1,000.

(iv) In the various individual disease incidences, that of influenza in 1934 fell to 12·5 per 1,000 from 74·8 per 1,000 in 1933; and that of venereal disease was slightly lower at 6·6 per 1,000 as compared with 7·2 per 1,000 in 1933. There are no further differences worthy of note, comparing the incidences of diseases for 1934 and 1933. Comparing the age groups of airmen, and the officers' and cadets' group, it will be noted that the incidence of influenza is decreased in all groups compared with 1933 and is highest in the under 18 age

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group at 29, compared with an all-ages incidence of 11 per 1,000, and a lowest incidence in the airmen age groups 20–21 and 28–29 of 8 per 1,000.

(v) Upper air passage infections show a large increase in incidence in 1934 over 1933 in the age groups under 18 and 18–19 but a decrease in all other groups, while the total incidences for the two years are practically identical. The incidence figures for upper air passage infections for the age group under 18 in 1934 and 1933 are 352 and 140 per 1,000 respectively while those for the age group 18–19 for these years are 110 and 79 per 1,000 respectively.

(vi) The incidence of venereal disease is highest at 15·0 per 1,000 in the airmen age group 24–25 and lowest in the under 18 age group of airmen in which no case occurred. In 1934 as in 1933, the ages 22–27 among airmen show the highest incidences for venereal disease. The highest incidence for respiratory diseases is in the 40 and over age group, but the incidence varies very little from group to group. The incidence of digestive diseases in the youngest age group of airmen is highest at 85, as compared with 34 per 1,000 for all ranks.

52. Table XIV, page 49, analyses the distribution of the same diseases, as shown in table XIII, in the larger stations which have maintained an average strength of approximately 450 or over during the year. The stations are the same in 1934 as those analysed in 1933, except that Martlesham, shown as a separate entity in 1933, is now included with " all other stations."

53. (i) The table shows that the highest incidence of all disabilities as in 1933, was at Cranwell—518 per 1,000. The next highest incidences were at Halton and Uxbridge with 516 and 470 per 1,000 respectively. The Fleet Air Arm at home showed the lowest all-disabilities incidence with 230 per 1,000. These figures compare with an average total for all-disabilities of 336 per 1,000 of strength.

(ii) Considering the incidences of all diseases, the Fleet Air Arm at home recorded the lowest incidence with 155 per 1,000 and Halton the highest with 422 per 1,000 which compare with an incidence of 260 per 1,000 for all stations.

(iii) Cranwell showed the highest injuries incidence with 113 and Gosport the lowest with 50, which compare with an incidence of 76 per 1,000 for all stations. Uxbridge, which is a non-flying station, recorded the lowest injuries incidence in 1933 and 1932, and the second lowest in 1934. Other points of note are as follows :— the incidence of venereal disease was markedly low at Manston, Halton and Cranwell, while the highest incidences were at Upper Heyford and in the Fleet Air Arm at home. There were no cases of venereal disease at Andover. The low incidences at Halton and Cranwell may in part be attributed to the fact that a large proportion of personnel at these stations is formed of apprentices. The low

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incidence of venereal disease among apprentices has already been mentioned. The incidence of upper air passage infections was highest at Halton and Cranwell and lowest in the Fleet Air Arm at home, the figures being 161, 115 and 42 per 1,000 respectively. The high incidence of upper air passage infections at Halton and Cranwell is accounted for by the fact that the personnel of these stations is composed largely of the under-18 age group which, past experience shows, is particularly prone to this group of disease.

54. Chart I, facing page 43, records graphically the monthly case incidence at home of the total sickness per 1,000 of strength for 1934, and the two preceding periods. The absence of the usual high peak in January and February, as compared with preceding periods, is noticeable and was due to the low incidence of influenza. Otherwise there is little variation from the two preceding periods. The low incidences in August and December correspond with the periods of summer and Christmas leave.

Notes on Diseases

55. *Influenza.*—The incidence fell from 748 in 1933 to 12·5 per 1,000 in 1934. The average number of sick daily was 6·6 compared with 33·6 in 1933.

56. *Upper air passage infections.*—The incidence of this group of diseases fell from 73·1 in 1933 to 72·1 per 1,000 in 1934, and the chief conditions subscribing to this group of infections were pharyngitis and nasopharyngitis which decreased from 41·4 in 1933 to 38·1 per 1,000 in 1934, and tonsillitis which increased from 29·2 in 1933 to 32·4, per 1,000 in 1934.

57. *Measles, mumps, rubella and scarlet fever.*—The incidences for these diseases show a very slight increase, the totals for 1933 and 1934 being 5·1 and 6·6 per 1,000 respectively.

58. *Acute rheumatism.*—Twenty-six fresh cases of acute rheumatism, representing an incidence of 1·2 per 1,000, occurred at home, compared with 32 cases and an incidence of 1·5 per 1,000 in 1933. In addition, there were 3 cases remaining under treatment at the end of 1933 making a total of 29 coming under treatment in 1934. These 3 cases returned to duty in 1934. There were no deaths during the year, but 2 cases were invalided from the service, compared with 1 death and 6 final invalids in 1933. The 26 fresh cases in 1934 comprised 4 officers 18 airmen and 4 aircraft apprentices—2 at Halton and 2 at Cranwell. The 4 officers returned to duty during the year. Of the 18 airmen, 12 were returned to duty during the year, 1 was invalided from the service, and 5 were remaining under treatment at the end of 1934. Of the 4 apprentices, 3 were fit for duty during the year, and 1 was invalided from the service.

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59. *Diseases of the heart.*—There were 40 cases of disease of the heart, representing an incidence of 1·8 per 1,000, compared with 34 cases and an incidence of 1·5 per 1,000 in 1933. Of the 40 cases, 26 were " disordered action," 13 were due to disease of the myo- and endocardium and one was a case of valvular disease. There were three deaths, and seven cases were invalided from the service.

60. *Otitis media.*—(i) There were 31 cases of acute otitis media in 1934, giving an incidence of 1·4 per 1,000 compared with 39 cases and an incidence of 1·8 per 1,000 in 1933.

(ii) The number of chronic cases in 1934 was 11, giving an incidence of 0·5 per 1,000, compared with 10 cases, and an incidence of 0·5 per 1,000 in 1933. In 1934, 5 were finally invalided compared with 2 in 1933.

61. *Venereal disease.*—The case incidence of venereal diseases fell to 6·6 from 7·2 per 1,000, comparing 1934 with 1933. There was a very slight increase in the incidence of syphilis, but decreases in those of gonorrhoea and soft chancre.

62. *Tinea cruris.*—There was a decrease in the incidence of tinea cruris in 1934 to 3·2 from 7·5 in 1933 and 5·3 per 1,000 in 1932.

63. *Psychoneurosis.*—During 1934, 34 cases, representing an incidence of 1·6 per 1,000, were recorded, compared with 44 cases and an incidence of 2·0 per 1,000 in 1933. Eighteen cases were invalided from the service in 1934, the same number as in 1933.

64. *Injury.*—The incidence of injury at home was 76·2 in 1934, compared with 80·0 per 1,000 in 1933.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS, 1934.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	997	29	352	—	13	85	306	785	119	904
18 and 19 ..	2,271	11	110	2	11	40	203	376	99	475
20 and 21 ..	2,931	8	73	4	5	36	140	266	100	366
22 and 23 ..	2,675	10	64	9	6	28	120	237	95	332
24 and 25 ..	2,364	12	63	15	11	29	117	247	75	322
26 and 27 ..	2,380	13	49	8	5	29	92	195	66	261
28 and 29 ..	1,398	8	38	5	4	19	69	143	59	202
30 to 34 ..	2,248	10	34	7	6	26	76	158	34	192
35 to 39 ..	1,080	9	39	6	7	36	101	198	39	237
40 and over ..	675	10	25	9	19	31	93	188	21	209
Airmen, all ages	19,019	11	76	7	8	33	128	262	76	338
Officers and cadets, all ages	2,405	22	44	6	7	37	118	235	80	315
All ranks at Home, 1934..	21,424	13	72	7	8	34	126	260	76	336
All ranks at Home, 1933..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*
All ranks at Home, 1932..	*23,053*	*32*	*61*	*7*	*11*	*40*	*123*	*274*	*81*	*355*
All ranks at Home, 1931..	*23,492*	*48*	*76*	*10*	*12*	*44*	*132*	*323*	*73*	*396*
All ranks at Home, 1930..	*23,191*	*11*	*64*	*13*	*11*	*40*	*139*	*277*	*72*	*349*

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TABLE XIV.—SICKNESS AT PRINCIPAL STATIONS AT HOME, 1934.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	482	19	54	—	10	37	114	234	98	332
Calshot.. ..	582	3	71	5	3	29	119	230	108	338
Cranwell ..	1,584	11	115	4	9	65	201	405	113	518
Felixstowe ..	452	7	77	9	13	16	77	199	91	290
Gosport ..	682	12	66	6	1	35	113	233	50	283
Grantham ..	475	2	67	8	2	44	89	212	70	282
Halton	2,223	10	161	2	11	48	190	422	94	516
Henlow.. ..	1,446	5	68	6	9	30	112	230	68	298
Manston ..	767	29	49	1	8	31	113	231	85	316
Upper Heyford	451	9	47	13	—	33	135	237	106	343
Uxbridge ..	1,393	13	90	5	11	48	241	408	62	470
Fleet Air Arm at home.. ..	572	3	42	12	7	12	79	155	75	230
All other stations	10,315	15	51	8	7	27	97	205	66	271
Total 1934..	21,424	13	72	7	8	34	126	260	76	336
Total 1933..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*
Total 1932..	*23,053*	*32*	*61*	*7*	*11*	*40*	*123*	*274*	*81*	*355*
Total 1931..	*23,492*	*48*	*76*	*10*	*12*	*44*	*132*	*323*	*73*	*396*
Total 1930..	*23,191*	*11*	*64*	*13*	*11*	*40*	*139*	*277*	*72*	*349*

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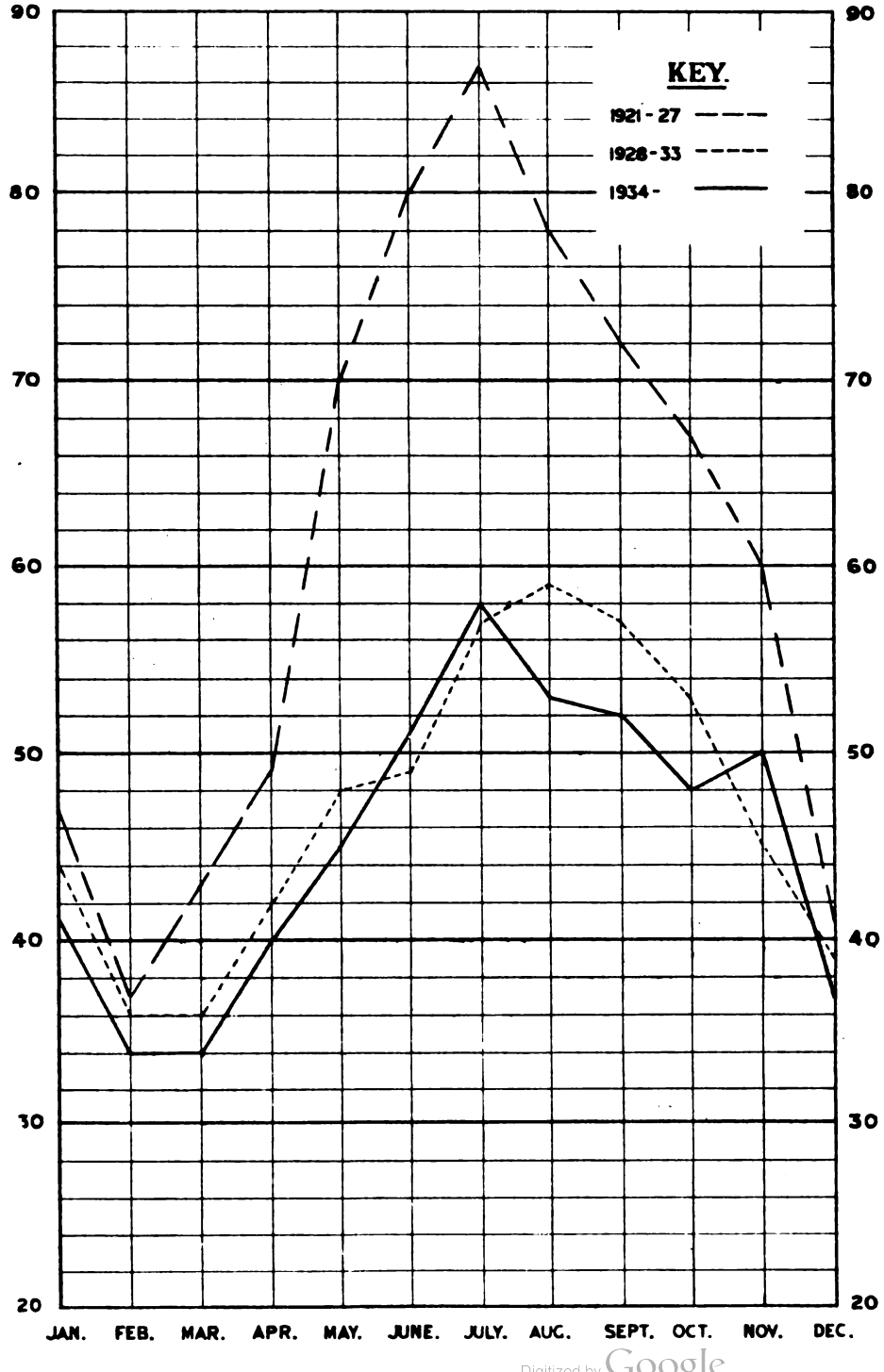
CHART 2. SICKNESS ABROAD.—1934.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1934

General

65. The incidence of total sickness abroad in 1934 is analysed in Table I, page viii, by geographical areas, and compared with the average incidences of the two preceding periods. As stated in chapter I, para. 1, the Mediterranean Littoral comprises Malta, Egypt, Sudan, Transjordan and Palestine, Aden, drafts en route to and from the United Kingdom and special duties. Figures for the Far East stations are shown as a footnote to Table I.

66. (i) The average strength abroad during 1934 was 9,200, and the total number of cases of sickness 7,967, representing an incidence of 866 per 1,000, compared with 880 in 1933, and average incidences of 974 and 1,566 per 1,000 in the two preceding periods. Excluding cases which were not admitted to hospitals and sick quarters, the incidence was 544 per 1,000 in 1934 compared with 552 in 1933, and average incidences of 563 and 730 per 1,000 during the two preceding periods.

(ii) The number of sick daily, including 48-hour cases rose to 27·7 in 1934 from 27·1 in 1933 and compares with average incidences of 27·7 and 39·2 per 1,000 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the constantly sick incidence was 26·3 per 1,000 in 1934 compared with 25·8 in 1933 and average incidences of 26·0 and 35·9 per 1,000 for the two preceding periods.

67. The average number of days' sickness per head, including cases of not more than 48 hours' duration was 10·1 in 1934, compared with 9·9 in 1933 and averages of 10·1 and 14·3 for the two preceding periods. If cases of not more than 48 hours' duration are excluded, the average number of days' sickness per head was 9·6 in 1934, and compares with 9·4 in 1933 and averages of 9·5 and 13·1 days for the two preceding periods.

68. Including cases of not more than 48 hours' duration, the average duration of each case in days was 12 in 1934 compared with 11 in 1933 and averages of 10 and 9 for the two preceding periods. If cases not admitted to hospitals and sick quarters are excluded, the average duration of each case was 18 days in 1934, compared with 17 in 1933 and average durations of 17 and 18 days for the two preceding periods.

69. The comparative sickness incidences for the total force abroad during 1934 show that compared with 1933, there were increases in the case incidences per 1,000 of strength for upper air passage infection, 71 to 85, dysentery, 7 to 17, and decreases for

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influenza, 20 to 13, malaria, 49 to 36, phlebotomus (sandfly) fever, 40 to 31, venereal diseases, 22 to 18, respiratory diseases, 18 to 14, and digestive diseases 46 to 44.

70. The incidence for deaths was 3·4 per 1,000 as compared with 4·0 in 1933 and average incidences of 4·7 and 7·2 per 1,000 for the two preceding periods. The invaliding rate to the United Kingdom from abroad was 13·8 per 1,000 in 1934 compared with 14·8 in 1933 and average rates of 15·1 and 22·8 per 1,000 for the two preceding periods. The invaliding incidence for personnel who were finally invalided on account of disabilities which arose while serving abroad was 4·3 in 1934, compared with 4·6 in 1933, and average incidences of 3·6 and 5·8 per 1,000 for the two preceding periods.

71. (i) In 1934 the sickness incidences for geographical areas show that the incidence of all cases of sickness for Iraq at 969 per 1,000 is the highest, and compares with the average incidence of 866 per 1,000 for all areas abroad. If only admissions to hospitals and sick quarters are considered, the Iraq command again records the highest incidence at 700 per 1,000, compared with an average incidence of 544 for all areas abroad. Iraq also shows the highest incidence for final invalids, for invalidings to the United Kingdom, for the number of sick daily, for the average duration of each case in days, and for the average number of days' sickness per head excluding 48-hour cases. In 1933 also Iraq showed the highest figures for all the above incidences.

(ii) In 1934 the case incidence in the Mediterranean Littoral shows an increase, and that for all other commands abroad a decrease.

72. Table XV, page 56, analyses for officers, and by age groups for airmen, certain diseases which are the principal causes of medical non-effectiveness abroad. Table XV is comparable with table XIII, page 48, for the force at home, with the exception of the diseases, dysentery, malaria and phlebotomus (sandfly) fever, and it also serves as a means of analysing in detail the incidence of disease abroad in the age groups shown in table V, page 24. The incidences of the age groups, 18–19 and 40 and over, have not been calculated as the numbers of these age groups serving abroad are so small that the figures would be of little value.

73. (i) The incidence for influenza in all ranks shows a decrease in 1934 to 13 as compared with 20 per 1,000 in 1933, but the incidence in the officer group was highest with 33 per 1,000 as compared with 26 per 1,000 in 1933. The highest incidence among airmen was in the 26–27 age group with 18 per 1,000 as compared with 34 per 1,000 in the age group 28–29, in 1933. Comparing 1934 with 1933, the incidence for dysentery in all ranks shows an increase. The incidence of malaria shows a decrease for all ranks and all age groups, with the exception of airmen age groups 20–21 and 35–39,

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which record an increase. The incidence of phlebotomus (sandfly) fever for all ranks shows a decrease; in the age groups for airmen the only increase is in the age group, 20–21. It is noted that the incidence of phlebotomus (sandfly) fever is highest in the youngest age groups and decreases rapidly towards the oldest age group. In 1934 there was an increase of upper air passage infection to 85 from 71 per 1,000 for all ranks. The highest incidence was in the 20–21 age group at 113 compared with 82 per 1,000 in 1933. Other large increases of incidence were in the 26–27 and 30–34 age groups. The incidence of venereal disease for all ranks decreased from 22 per 1,000 in the year 1933 to 18 per 1,000 in 1934. In the various age groups the most marked differences, when compared with 1933, were the increase from 8 to 20 in the incidence for age group 35–39, and the decrease from 28 to 13 for age group 20–21.

(ii) During 1934, for all ranks, of the groups of disabilities analysed, upper air passage infections show the highest disability incidence with 85 per 1,000, followed by injuries with 81 per 1,000. Total disabilities case incidence is highest in the airmen age group, 20–21, and lowest in the airmen age group, 35–39.

74. Chart 2, facing page 50, shows the monthly incidence of sickness abroad during 1934 compared with the two preceding periods. It will be noted that the highest incidence of sickness in 1934 is reached in the months of June, July and August, with the peak in July: in the period 1928–33 the peak is reached in August, and in the period 1921–27 in July.

Notes on Diseases

75. *Dysentery, malaria and phlebotomus (sandfly) fever.*—(i) Table XVI, page 57, analyses dysentery, malaria and phlebotomus (sandfly) fever at the principal stations abroad, and also shows the percentage of all diseases attributable to each and their incidence collectively compared with all other diseases. Table XVII, page 58, continues the analysis of dysentery, malaria and phlebotomus (sandfly) fever to show the actual number of cases at each station, and also differentiates between primary and relapse cases of malaria and the various types of dysentery. In table XVIII, page 59, these numbers are shown monthly by geographical areas, sub-divided for malaria and dysentery into the number of primary and total cases, and the incidences of the various types of disease are compared with the corresponding averages over the two preceding periods.

(ii) (*a*) Abroad, the incidence of dysentery increased from 6·7 in 1933 to 16·6 per 1,000 in 1934. This is accounted for by an increase in the number of cases at Hinaidi, from 7 in 1933 to 93 in 1934, showing an increased incidence to 49·4 in 1934 compared with 7·4 per 1,000 in 1933 for Iraq. There was little change from 1933 in the figures for the Mediterranean Littoral and India.

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(*b*) Malaria decreased in incidence abroad from 48·6 per 1,000 in 1933 to 36·1 in 1934. In the Mediterranean Littoral there was a small decrease in the number of cases of malaria, representing an incidence of 32·8 compared with 36·1 per 1,000 in 1933. Iraq shows a small decrease of 3 cases, giving an incidence of 24·0 in 1934 compared with 25·8 per 1,000 in 1933. India records a marked decrease by 94 cases, representing an incidence of 65·9 in 1934 compared with 110·5 per 1,000 in 1933, and average incidences of 124·6 and 260·0 per 1,000 in the two preceding periods.

(*c*) The incidence of phlebotomus (sandfly) fever decreased in 1934, to 30·8 from 40·0 per 1,000 in 1933. There was little change in the number of cases and the incidence in the Mediterranean Littoral, comparing 1934 and 1933, but in Iraq, the number of cases decreased to 152 in 1934 from 202 in 1933, representing a decrease in the incidence to 74·3 in 1934 from 100·1 per 1,000 in 1933. In India, there was a decrease of 16 cases from 1933, and the incidence fell to 28·0 in 1934 from 35·6 per 1,000 in 1933.

(iii) (*a*) Considering the incidence of these diseases at stations abroad, the occurrence of 21 cases of dysentery at Quetta in 1934, compared with 6 cases in 1933, is mainly responsible for the increase of the incidence of dysentery in India from 27 in 1933 to 36 in 1934. Of the cases in Quetta 15 were bacillary dysentery.

(*b*) In India the decrease in the incidence of malaria was spread fairly generally over all stations. At Lahore only was there an increase over 1933, the increase being small.

(*c*) Phlebotomus (sandfly) fever shows an increase in the number of cases at Aden from 10 in 1933 to 19 in 1934. A decrease in the number of cases at Risalpur from 11 in 1933 to 4 in 1934 is noted.

(iv) The monthly case incidences of these diseases in 1934 show that in the Mediterranean Littoral and India the highest incidence of malaria was recorded in September. In Iraq the peak of malarial incidence was reached in May. The dysentery epidemic in Iraq is shown to be in the month of November. The peak of the phlebotomus (sandfly) fever incidence in Iraq was reached in June and July, and that of India in June, July and August.

76. *Diseases of the enteric group.*—In 1934 eight cases of this group of disease occurred compared with 10, 8 and 27 in 1933, 1932 and 1931 respectively. The incidence of the group fell to 0·9 in 1934 from 1·1 per 1,000 in 1933. Two cases were invalided to the United Kingdom, but there were no deaths or final invalids.

(i) *Typhoid fever.*—One case occurred in 1934 compared with two in 1933. The case was an airman stationed at Miranshah in India. On recovery he returned to duty within the command.

(ii) *Paratyphoid B. fever.*—One case occurred in 1934 compared with two cases in 1933. The case was an airman in Egypt stationed at Aboukir. He was returned to duty on completion of treatment.

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There was also one case in Hong-Kong remaining from 1933, who was invalided to home establishment, and returned to duty during the year.

(iii) *Clinical enteric group.*—Cases which show clinical signs and symptoms of one of the enteric group fevers, but which are not diagnosed bacteriologically are recorded under this heading. In 1934 six cases occurred compared with four in 1933. Three cases were stationed in Iraq, one in Egypt, one in Malta and one in India. All returned to duty in their commands during 1934 except for one case from Iraq who was invalided to the United Kingdom.

77. *Acute enteritis and acute gastro-enteritis.*—The incidence for these diseases in 1934 was 32·6 compared with 27·0 per 1,000 in 1933. This represents an increase in the number of cases from 243 to 300 in 1934. There were no deaths or invalids.

78. *Heat exhaustion.*—There were nine cases as compared with seven in 1933, five occurring in Iraq, two in Aden, one in Palestine and one in Khartoum. All returned to duty in their respective commands. There were no cases of heat hyperpyrexia.

79. *Influenza.*—In 1934 the number of cases decreased from 179 in 1933 to 122, representing incidences of 19·9 and 13·3 per 1,000 respectively.

80. *Upper air passage infections.*—The incidence of acute upper air passage infections in 1934 was higher at 84·9 compared with 71·0 per 1,000 in 1933. This incidence includes cases of acute tonsillitis.

81. *Psychoneurosis.*—There were 21 cases of psychoneurosis in 1934, compared with 22 cases in 1933, the incidence per 1,000 of strength being only 0·1 lower than in 1933. The number of cases invalided to the United Kingdom was seven, and three were invalided from the service as compared with fifteen and six respectively in 1933.

82. *Otitis media.*—(i) In 1934 there were 28 acute cases, an incidence of 3·0 per 1,000, compared with 25 cases and an incidence of 2·8 in 1933. One case was invalided to the United Kingdom.

(ii) Thirteen chronic cases occurred, representing an incidence of 1·4 as compared with 16 cases and an incidence of 1·8 per 1,000 in 1933. Four cases were invalided to the United Kingdom and two out of the service.

83. *Acute rheumatism.*—During 1934, four cases of acute rheumatism occurred, giving an incidence of 0·4, compared with eight cases and an incidence of 0·9 per 1,000 in 1933. There were no deaths, or invalidings out of the service.

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84. *Diseases of the heart.*—Eighteen cases of disease of the heart occurred during 1934 with an incidence of 1·9 per 1,000, as compared with 21 cases and an incidence of 2·3 per 1,000 in 1933. The 18 cases consisted of 14 " disordered action," 3 disease of the myocardium, and 1 valvular disease.

85. *Injury.*—The incidence of injury in 1934 was 81·2 compared with 83·4 per 1,000 in 1933. There were 13 deaths, 9 invalidings to the United Kingdom, and no final invalids, compared with 26, 11, and one respectively in 1933.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS, 1934.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.											
		Influenza.	Dysentery.	Malaria.	Phlebotomus (sandfly) fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—													
18 and 19	20	*	*	*	*	*	*	*	*	*	*	*	*
20 and 21	763	5	30	22	58	113	13	10	53	273	577	102	679
22 and 23	1,973	9	21	22	40	94	24	12	44	218	484	94	578
24 and 25	2,088	10	12	46	31	78	25	11	46	216	475	92	567
26 and 27	1,014	18	13	52	30	94	20	13	39	212	491	99	590
28 and 29	373	11	24	29	19	70	19	29	46	230	477	65	542
30 to 34	1,116	16	11	40	21	81	10	13	42	172	406	62	468
35 to 39	548	4	9	44	16	53	20	11	44	179	380	27	407
40 and over	283	*	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages ..	8,178	11	17	36	32	85	19	14	44	210	468	82	550
Officers, all ages ..	1,022	33	17	36	22	85	4	15	45	165	422	73	495
All ranks, abroad 1934	9,200	13	17	36	31	85	18	14	44	205	463	81	544
All ranks, abroad 1933	*8,994*	*20*	*7*	*49*	*40*	*71*	*22*	*18*	*46*	*196*	*469*	*83*	*552*
All ranks, abroad 1932	*8,824*	*13*	*9*	*32*	*47*	*80*	*22*	*16*	*40*	*176*	*435*	*79*	*514*
All ranks, abroad 1931	*8,956*	*22*	*9*	*37*	*51*	*82*	*26*	*15*	*38*	*175*	*455*	*76*	*531*
All ranks, abroad 1930	*8,809*	*7*	*9*	*58*	*52*	*77*	*25*	*15*	*46*	*189*	*478*	*82*	*560*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD, 1934.

	Average strength	Number of cases.						Percentage of total number of cases of disease.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Phlebotomus (sandfly) fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	All diseases.	Dysentery.	Malaria.	Phlebotomus (sandfly) fever.	Total: dysentery, malaria and sandfly fever.	All other diseases.	Dysentery, malaria and sandfly fever.	All other diseases.	All diseases.
								%	%	%	%	%			
Egypt.															
Aboukir ..	680	4	25	—	29	208	237	2	11	—	13	87	43	306	349
Abu Sueir ..	397	—	37	2	39	182	221	—	17	1	18	82	98	458	556
Cairo and Heliopolis	626	2	29	14	45	330	375	1	8	4	13	87	72	527	599
Aden.															
Aden and Khormaksar	418	4	6	19	29	254	283	1	2	7	10	90	69	608	677
Iraq.															
Hinaidi ..	1,418	93	17	116	226	563	789	12	2	15	29	71	159	397	556
Basrah and Shaibah	382	6	28	14	48	284	332	2	9	4	15	85	126	743	869
India.															
Karachi ..	547	2	17	3	22	245	267	1	6	1	8	92	40	448	488
Mediterranean.															
Calafrana ..	346	—	—	2	2	122	124	—	—	2	2	98	6	353	359
Far East															
Singapore ..	518	1	2	—	3	179	182	1	1	—	2	98	6	346	351

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TABLE XVII.—DYSENTERY, MALARIA AND PHLEBOTOMUS (SANDFLY) FEVER: STATIONS ABROAD, 1934.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Phlebotomus (Sandfly) fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aden ..	418	2	2	2	2	—	—	4	4	4	6	19
Aboukir ..	680	1	1	2	2	1	1	4	4	16	25	—
Abu Sueir ..	397	—	—	—	—	—	—	—	—	24	37	2
Amman ..	246	—	—	—	—	—	—	—	—	1	2	17
Cairo and Heliopolis	626	—	—	1	1	1	1	2	2	17	29	14
Calafrana ..	346	—	—	—	—	—	—	—	—	—	—	2
Helwan ..	162	—	—	1	1	—	—	1	1	3	4	2
Ismailia ..	220	—	—	—	—	—	—	—	—	8	10	2
Khartoum ..	195	—	—	3	4	—	—	3	4	12	16	5
Ramleh ..	252	—	—	—	—	—	—	—	—	—	—	6
Various small stations and drafts *en route* ..	573	—	—	—	—	—	—	—	—	5	6	3
Total ..	4,115	3	3	9	10	2	2	14	15	90	135	72
India.												
Ambala ..	165	4	5	1	1	—	—	5	6	7	11	7
Karachi ..	552	2	2	—	—	—	—	2	2	14	17	3
Kohat ..	221	1	1	2	2	—	—	3	3	10	15	10
Lahore ..	164	—	—	—	—	—	—	—	—	9	15	8
Lower Topa..	167	1	1	—	—	—	—	1	1	4	9	1
Peshawar ..	181	1	1	1	1	—	—	2	2	14	18	22
Quetta ..	341	5	5	15	15	1	1	21	21	27	42	—
Risalpur ..	226	—	—	1	1	—	—	1	1	3	4	4
Various small stations ..	93	—	—	—	—	—	—	—	—	5	8	4
Total ..	2,110	14	15	20	20	1	1	35	36	93	139	59
Iraq.												
Basrah ..	184	2	2	3	3	—	—	5	5	15	25	9
Hinaidi ..	1,418	2	2	91	91	—	—	93	93	14	17	116
Mosul ..	217	—	—	2	2	—	—	2	2	4	4	22
Shaibah ..	198	—	—	1	1	—	—	1	1	3	3	5
Various small stations ..	28	—	—	—	—	—	—	—	—	—	—	—
Total ..	2,045	4	4	97	97	—	—	101	101	36	49	152
Fleet Air Arm Far East.	354	—	—	—	—	—	—	—	—	2	3	—
Singapore ..	518	—	—	—	—	1	1	1	1	2	2	—
Various small stations ..	58	—	—	—	—	—	—	—	—	1	4	—
Total ..	576	—	—	—	—	1	1	1	1	3	6	—
TOTAL: All stations abroad	9,200	21	22	126	127	4	4	151	153	224	332	283

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TABLE XVIII.—DYSENTERY, MALARIA AND PHLEBOTOMUS (SANDFLY) FEVER: CERTAIN COMMANDS ABROAD—MONTHLY CASE INCIDENCE, 1934.

Month.	Dysentery.						Malaria.						Phlebotomus (Sandfly) fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	—	—	—	—	—	—	6	8	2	4	1	2	2	—	—
February	—	—	—	—	1	1	2	2	2	4	—	—	1	1	—
March	—	—	1	1	—	—	5	6	2	4	—	—	—	2	—
April	—	—	6	6	1	1	1	4	4	6	—	—	7	4	13
May	—	—	—	1	2	2	3	6	—	4	11	12	10	5	29
June	1	1	5	5	1	1	9	18	4	12	5	7	13	12	36
July	3	3	8	8	—	—	10	21	7	14	8	8	6	10	38
August	2	2	8	8	4	4	11	16	17	20	2	5	11	11	17
September ..	2	2	4	4	1	1	18	23	28	35	4	5	12	7	11
October	4	4	2	2	—	—	15	18	19	24	4	5	8	4	8
November	2	2	1	1	90	90	6	8	7	10	1	3	1	2	—
December	—	1	—	—	1	1	4	5	1	2	—	2	1	1	—
1934 Total ..	14	15	35	36	101	101	90	135	93	139	36	49	72	59	152
Case incidence per 1,000 of strength															
1934	3·4	3·6	16·6	17·1	49·4	49·4	21·9	32·8	44·1	65·9	17·6	24·0	17·5	28·0	74·3
1928–33	*4·0*	*4·3*	*14·7*	*15·9*	*9·0*	*9·6*	*18·2*	*29·3*	*66·1*	*124·6*	*25·3*	*36·1*	*29·2*	*60·3*	*98·9*
1921–27	*8·8*	*11·1*	*11·7*	*18·3*	*29·3*	*35·3*	*16·1*	*34·9*	*118·4*	*260·0*	*55·9*	*123·6*	*53·5*	*61·4*	*227·7*

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CHAPTER IV.—SPECIAL DEPARTMENTS

Medicine

Central Medical Establishment

86. (i) *General.*—The routine work of the Central Medica Establishment has increased as compared with previous years, the total number of medical examinations carried out annually being 3,755, 3,301, 3,334, 3,156, 2,706 for the years 1934, 1933, 1932, 1931 and 1930 respectively: this increase is due to expansion of the service. Details of these examinations are shown in Table XIX.

(ii) *Instruction.*—During 1934 the usual routine short courses of instruction in aviation medicine were given to eleven newly-joined Royal Air Force medical officers, and to fourteen selected Naval and Colonial Service medical officers.

(iii) *Research.*—(*a*) One of the results of the rapid development of service aircraft is the strain on their crews; research has been continued into methods of reducing this strain on the lines of last year's report, with particular attention to the following :—

(1) Methods of administration of oxygen at altitude, and any modification of different percentages of carbon dioxide with the oxygen thus breathed with the object of further raising the human "ceiling" by stimulating respiration.

(2) Methods of enabling man to exist at heights where the total amount (i.e. pressure) of oxygen, even if breathed pure, is not enough to support life.

(3) The design of personal apparel and equipment for high flying.

(4) The nature and causes of fatigue in the crews of service aircraft with a view to its mitigation and consequent increase of flying efficiency.

(*b*) The results of many years' investigation into the significance and treatment of heterophoria in relation to aviation have been published in the "Transactions of the Ophthalmological Society," Vol. LIV, 1934. Certain causes of heterophoria were found to be more peculiar to flying :—

(1) The concentration fatigue of flying training.

(2) High altitude flying.

(3) Sun glare fatigue, especially in commands abroad, and

(4) Cerebral concussion and psychoneurosis which may be the result of flying.

A study of the eyes in relation to successful night flying and landing has commenced.

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(*c*) Research on the relationship between body-build and functional efficiency was published in the "Lancet," 30th June, 1934, page 1377. The conclusions of the author reached were as follows :—

(1) There is a definite relationship between varying degrees of body-build and functional efficiency, whether viewed from the points of capacity to endure severe or prolonged physical or mental stress or resistance to disease generally

(2) Capacity to endure severe or prolonged physical stress as evidenced by athletic prowess is found most commonly in overweights. An exception to this is seen in long-distance runners among whom underweight is commoner than overweight.

(3) Incapacity to endure severe or prolonged mental stress, as evidenced by invaliding from the service through psychic disorders, is commoner among individuals underweight on entry to the service than among overweights.

(4) This applies also to disease as a whole, and particularly in the case of infective diseases, such as pulmonary tuberculosis. The greater the degree of underweight on entry, the greater the likelihood of invaliding from the service on medical grounds.

(5) It is uncommon for overweight individuals to become underweight, and vice versa.

(6) As a rule it is not difficult to distinguish between the "fit" and "unfit" types of underweight by careful examination.

(iv) *Examinations at the central medical establishment.*—Table XX shows that during 1934, out of 821 candidates for flying, in the regular Air Force, 69 per cent. were finally accepted as fit for full flying duties compared with 60 per cent. in 1933, and 27 per cent. finally rejected on medical grounds. Table XXII shows that the chief cause of rejection in examinations covering all groups of personnel was defective vision only in 44 per cent. and defective physical efficiency only in 22 per cent. of those rejected. The rejections for defective vision only in 1933, 1932 and 1931 were 35, 40 and 34 per cent. respectively of all rejects. Table XXII gives the various causes of rejection of all service candidates—flying and otherwise—medically examined at the Central Medical Establishment during the year under review.

Table XXI records the average results of the physical efficiency tests and measurements of all candidates for flying duties accepted at the Central Medical Establishment and finally entering the service for the years 1934, 1933, 1932, 1931, 1930 and for the 5-year period 1925–1929.

Surgery

87. (i) (*a*) *General.*—The surgery in general has varied little from the preceding year.

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(*b*) *Surgical treatments.*—There has been a considerable increase in " plaster " work for treatment of fractures and deformities during the period under review.

(*c*) *Anaesthetics.*—The installation of modern anaesthetic tables at R.A.F. Hospitals has done much to facilitate the administration of general anaesthesia. Evipan sodium has been used frequently throughout the year with satisfactory results.

(*d*) *Massage.*—Massage is now, to a considerable extent, augmented by physical treatment, i.e., movements, including muscle re-education and training. Clause (v) of this paragraph gives a résumé of treatments given in the Massage and Electrotherapeutic departments of all R.A.F. Hospitals. Chapters I, II and III deal fully with the statistics of surgical diseases.

(ii) *Surgical operations.*—During 1934 the following surgical operations were carried out in R.A.F. hospitals at home and abroad :-

	Major.	*Minor.*	*Total.*
Home	369	1,286	1,655
Abroad	105	1,068	1,173
At home and abroad ..	474	2,354	2,828

(iii) *Anaesthetics.*—(*a*) At home, a total of 1,030 general anaesthetics were administered as compared with 306 abroad. The forms of general anaesthetic used were :—

Chloroform and ether	280
Nitrous oxide	270
Nitrous oxide, oxygen and ether	170
Ether	166
Evipan	139
Nitrous oxide and oxygen	72
Ethyl chloride and ether	62
Chloroform	38
Ethyl chloride	31
Narcotilogne and ether	25
Various other combinations of drugs ..	83
Total	1,336

(*b*) At station sick quarters a total of 112 general anaesthetics were given. The anaesthetics most frequently used were :—nitrous oxide on 70 occasions, chloroform and ether on 25 occasions and ether on 11 occasions.

(*c*) Percaine was used in 12 cases to induce spinal anaesthesia.

(*d*) In R.A.F. hospitals the local anaesthetic most frequently employed was percaine in conjunction with procaine, followed in order of frequency by cocaine, novocaine and novutox. In sick quarters, ethyl chloride was used most frequently for inducing local anaesthesia.

These figures do not include anaesthetics used in connection with dental surgery.

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(iv) *Radiological departments.*—The following table records the radiological work carried out by R.A.F. medical units during the year :—

	Home.	*Abroad.*	*Total.*
General	3,413	1,220	4,633
Opaque meals	141	75	216
Opaque enemata	29	13	42
Cholecystography ..	24	23	47
Pyelography	46	30	76
Chest (Lipiodol)	9	0	9
Total	3,662	1,361	5,023

These figures do not include radiological examinations in connection with dental work.

(v) *Massage and electro-therapeutic departments.*—The following treatments were carried out in R.A.F. hospitals at home and abroad :—

	Home.	*Abroad.*	*Total.*
Massage treatments and exercises	13,153	4,031	17,184
Electrical treatments (excluding radiant heat) ..	5,911	1,740	7,651
Radiant heat	4,068	1,000	5,068
Ultra-Violet Ray treatment	192	0	192

These figures include both patients under treatment in hospital and out-patients.

(vi) *Ear, Nose and Throat Department, Uxbridge.*—(*a*) *Out-patients.*—One thousand, one hundred and ninety examinations of out-patients were carried out during 1934, and of these 286 were new patients and 904 represent subsequent attendance for examination and treatment.

(*b*) *Operations.*—One hundred and three operations for the treatment of ear, nose and throat conditions were performed on officers and 160 on airmen and families, making a total of 263 for the year. The operations most frequently carried out were :—

	Officers, Cadets and Nursing Staff.	*Airmen and Families.*	*Total.*
Enucleation of tonsils and adenoids	32	62	94
Submucous resection of septum	11	23	34
Proof puncture and lavage of maxillary antra ..	32	33	65
Intranasal antrostomy (single or bilateral) ..	14	14	28

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(*c*) *Anaesthetics.*—The anaesthetics used in the 263 operations were as follows :—

General anaesthesia	75 cases.
Evipan sodium intravenously	58 cases.
Local anaesthesia	130 cases.

The local anaesthetics employed were percaine, 2 per cent. for surface anaesthesia and 0·5 per cent. percaine or 2 per cent. procaine for infiltration purposes. To this 1/1,000 Adrenalin Hydrochloride was added. In all cases of local anaesthesia premedication was obtained either by nembutal grs. 1½ to 3 orally in conjunction with morphia, grs. 1/6 and atropin grs. 1/100 one hour before operation, or with omnopon grs. 1/3–2/3 and scopolamine, 1/150 grs. respectively. Any feeling of apprehension was abolished, the patient being drowsy during the major part of the operation. Evipan sodium was administered on 58 occasions for enucleation of tonsils. For this anaesthetic cases have to be selected, the short-necked, muscular individual being unsuitable—at any rate as far as throat operations are concerned. Complete relaxation is not possible, the cough reflex is not always abolished, and there is a tendency to development of laryngeal spasm. Observations are being made and results will be available on completion of 100 cases.

(*d*) *X-Ray examinations.*—During the year 1934, one hundred and fifty-five cases, necessitating 467 exposures, were investigated radiologically for the presence or absence of accessory sinus infection. This has been made possible with the new X-ray apparatus with upright sinus stand at present available at the R.A.F. Officers' Hospital.

Pathology

88. (i) *Laboratory work.*—The total number of routine specimens examined in the Royal Air Force Pathological and Clinical Laboratories in the United Kingdom and abroad during 1934 amounted to 63,840, a figure considerably higher than that of the previous year (51,487). A synopsis of the work done in each laboratory is shown in Table XXVIII, page 79.

(ii) *Teaching.*—At the Royal Air Force Pathological Laboratory, Halton, two officers received advanced instruction in pathology, bacteriology and tropical medicine, and eleven newly recruited medical officers were given a three-months course in pathology, hygiene and tropical medicine. Two airmen received a years' special training in general laboratory work and qualified as laboratory assistants. Courses in general field sanitation and hygiene—each course lasting a fortnight—were given to 452 aircraft apprentices and airmen. In March the members of the Public Health Class of the London School of Hygiene and Tropical Medicine (London University) paid their annual visit to Halton for instruction in service hygiene.

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(iii) *Research and investigation.*—(*a*) *Tonsillitis, rheumatism, scarlet fever, diphtheria, influenza and allied diseases.*—Research in connection with etiological factors relative to the incidence of tonsillitis and droplet infections amongst aircraft apprentices at Halton has continued and full reports are in process of preparation.

(*b*) *Malignant disease.*—The value of Cronin Lewis modification of the Bendien test for malignancy is being investigated—57 sera from cancerous cases from the Royal Cancer Hospital and from 120 controls have been tested to date. The number of observations is at present too small to permit deductions of statistical value. It is hoped, however, that sufficient material will be available to group the cases according to anatomical site of primary growth, duration and secondary spread.

Hygiene

Stations in the United Kingdom

89. (i) *Accommodation.*—One new station, Mildenhall, was occupied during the year and many other stations had extensive additions and improvements made to accommodation.

(*a*) *Experiments in ventilation and heating* were carried out at the Halton workshops with a view to conserving heat in winter and reducing temperature in summer. Aluminium fabric and calorex glass were incorporated in the area of roofing under test and it was found that in hot weather the rooms in this area were about 10° F. cooler than similar rooms which were covered by standard roofing, the reduction being most marked when the shade temperature rose about 70° F. Tests were also made with louvred ventilators of various designs, and satisfactory results obtained.

(*b*) During July the airmen's kitchen at Uxbridge became heavily infested with the cockroach, Blatella germanica. A vermin killing company was employed to combat the cockroaches and their efforts met with considerable success, but eradication was incomplete.

Later the hygiene section issued a powder mixture composed of pyrethrum one, and sodium fluoride 3 parts. This was found to be more effective in keeping the cockroaches in check than the powder supplied by the vermin killing company.

At Cranwell, the kitchen of the new Cadet College became infested with cockroaches. The following insecticide was used with great success:—sodium fluoride 4, powdered liquorice ½, borax 1, pyrethrum 4, and cornstarch 2 parts.

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(ii) *Notes on special diseases.*—(*a*) *Food poisoning.*—There were small outbreaks of food poisoning at three stations, two during the month of May and one in July.

At Henlow, eight airmen were affected mildly, and the outbreak was attributed to fish cakes.

At Hornchurch, twenty-one men required treatment but no patient was retained in sick quarters or hospital more than three days. The actual item of food causing the outbreak was not discovered, but Bacillus aertrycke was isolated from the stools of some of these patients.

At Calshot, eight mild cases of poisoning were traced to sausages.

There were no deaths at any of these stations from food-poisoning.

(*b*) *Tinea cruris.*—At Cranwell, as in previous years, the incidence of tinea cruris has been high, especially amongst the aircraft apprentices in the Electrical and Wireless School.

Abroad

90. (i) *Climate.*—Kata-thermometer tests showed that the cooling power of the air in Aden is almost invariably less than the minimum stipulated for sedentary workers in Great Britain. Readings in most situations for the dry Kata were seldom above 5 and for the wet above 16.

(ii) *Accommodation.*—(*a*) The main increase in building has been in Aden, Iraq at Margil and Shaibah, and at Singapore, where considerable replacements of buildings have been carried out. Work on the new cantonment at Dhibban is advancing steadily.

(*b*) The elimination of bed bugs from old buildings in Malta and the Middle East continued to be a difficult problem. Successful results, however, have been obtained in Cairo where Imperial Chemical Industries were employed to treat certain infested buildings by their cyanide process. It is proposed to use this process on a more extensive scale in future.

(*c*) The special cooling fans, as described in the health report for 1931, in use at the R.A.F. General Hospital, Hinaidi, for air condition, continue to work in a very satisfactory manner. The temperatures of the wards in which they were employed were usually kept below 80° F. during the summer months, while meteorological readings showed that there were 48 days in 1934 during which the shade temperature reached or exceeded 110° F.

(iii) *Water supply.*—The chloramine process continues to be used at many stations and was found to be satisfactory in every way, especially as regards the elimination of the taste of chlorine from the water.

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(iv) *Notes on special diseases.*—(*a*) *Dysentery.*—In Iraq at Hinaidi there was an epidemic of bacillary dysentery of the Shiga type. There were 91 cases, the majority occurring early in November, and the infection was traced to mineral waters. There were no cases of amoebic dysentery.

In India, out of a total of 36 cases of bacillary dysentery in the command, 21 occurred at Quetta. Only one case of amoebic dysentery was reported in this command.

(*b*) *Enterica.*—The incidence of this group of diseases still remains very low, *see* table VII, indicative of a high degree of efficient sanitary control.

(*c*) *Malaria.*—In Egypt, concomitant with anti-mosquito work carried out by the Egyptian Government in the neighbourhood of the camp, the number of cases of primary malaria in Aboukir dropped from 31 in 1933 to 16 in 1934.

In India, the highest incidence of this disease occurred at Quetta and Peshawar, while the lowest was at air headquarters (stationed at New Delhi in the winter and Simla in the summer) and Karachi.

In Singapore a malarial survey was carried out during the month of September and no anopheline larvae were found within the R.A.F. camp boundary.

(*d*) *Sandfly fever.*—In India, sandfly fever was more prevalent at Peshawar than at other stations. There were no cases at Quetta.

In Malta, an item of marked interest is the record low figure for sandfly fever incidence, namely, one case. If this is compared with the state of affairs existing immediately prior to the carrying out of the recommendations of the Sandfly Commission, when, during the peak months of 1920 and 1921 the monthly incidences were 120 and 131 per 1,000 respectively, the immense economy in man power and efficiency can be appreciated.

(*e*) *Smallpox.*—In Iraq, a considerable number of cases of smallpox were recorded amongst the civil population in the north of the country. No cases occurred among the R.A.F. personnel during the year, but two Levy dependants developed the disease in Hinaidi Cantonment.

(*f*) *Venereal disease.*—In India the number of cases of venereal disease dropped by 50 per cent. as compared with 1933, and in Middle East by 20 per cent. whereas in Iraq there was a slight increase in the incidence.

(*g*) *Yellow fever.*—In October, 1933, the possibility of the presence of yellow fever at Juba and Malakal in the Sudan was reported to the Air Ministry, who were interested in the matter as service and Imperial Airways, Limited, aircraft used landing grounds at these two places.

Serological tests were carried out throughout the Sudan, and at Rumbek and Wau 57 and 25 per cent. respectively of adults tested

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were found positive. In Wau there were three positive sera in children aged six, and nine out of twenty-four sera from children under twelve, while in Rumbek one out of eighteen. Five missionaries at Wau and seven Arab merchants, the latter living in close contact with and under more or less the same conditions as the inhabitants, proved negative. This and clinical experience, in the opinion of the Director of Sudan Medical Services, goes to prove that foreigners living among natives in areas, where a high percentage of sera gives a positive reaction to yellow fever, run little risk of contracting the disease. The tests appear to indicate that either yellow fever occurred in epidemic form some 12 to 50 years ago or that it was endemic in the past and has gradually died out but that in any case small sources of infection must have existed at Wau and Rumbek within the last six to eleven years respectively. The position was considered satisfactory and reassuring as far as main air routes were concerned.

The net result was that there was no interference with Royal Air Force or Civil Airways through the Sudan beyond quarantine examination and disinfection—as decided by the Director of the Sudan Medical Services, whose instructions it has been agreed should be accepted and complied with—and the placing out of bounds of the town of Wau and the whole of the province of Bahr el Gazal.

By November, 1934, it was considered that there was no risk in R.A.F. machines visiting Wau provided that both the aircraft and personnel concerned were quarantined for a total period of six days after leaving the town, i.e., if four days were spent en route and a further two were spent under quarantine conditions in Khartoum.

91. *Hygiene Section, Royal Air Force Depôt.*—The work carried out at the section has been on similar lines to that of previous years.

(i) 115 hospital orderlies under training attended for a course of lectures on hygiene and sanitation before proceeding to the Medical Training Depôt, Halton.

(ii) 6 hospital orderlies were trained as sanitary assistants and successfully passed their examination as such.

(iii) During 1934 all acting pilot officers undergoing the disciplinary course at this depôt on joining the service were given instruction in general hygiene and camp sanitation.

(iv) 23 aircraft hands selected for sanitary duties at summer training camps were given two weeks elementary instruction in hygiene and field sanitation.

(v) Officers attending the Royal Air Force Depôt for promotion examinations were given instruction on the models in the Hygiene Section Museum.

(vi) All recruits attended for one lecture each month during the period of their training.

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Physical efficiency of Serving Officers, Cadets and Airman Pilots of the Royal Air Force

92. (i) Three thousand, nine hundred officers, cadets and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches during the year 1934. This number consists of 2,137 officers of the general duties branch liable for flying duties as pilots of aircraft and 404 not so liable on account of age or type of employment; 738 officers of the ancillary branches who are only required to be fit for general service and to fly as passengers; 92 cadets and 529 airman pilots who should be fit for full flying duties.

(ii) Of the 2,137 officers of the general duties branch liable for flying duties as pilots, 93 per cent. were found fit for flying duties, i.e., as pilots without any restrictions. Of these 2,137 officers, 1,400, who were under 30 years of age, were required to be fit for full flying duties as pilots, and 95 per cent. reached this standard. Of the 737 officers over 30 years of age, 89 per cent. were also fit for flying duties as pilots without any restrictions. Table XXIII, page 77, compares the percentage of officers of the general duties branch liable for flying duties, found fit for full flying duties in the years 1922 to 1934 inclusive. The high fit percentage, i.e., 93 in 1934 is considered satisfactory. Tables XXIV and XXV, pages 78 and 79 respectively, analyse the responses to the standard physical efficiency tests of the officers of the general duties branch liable for flying duties. Table XXVI, page 81, under certain headings, analyses the unfitness of the 153 officers of the general duties branch liable for full flying duties, but, owing to medical reasons, not reaching the desired standards. It shows that medical and surgical conditions are the most common causes of unfitness and that defects of vision, although not as numerous, are a frequent cause of disability. Of these 153 officers unfit for full flying duties as pilots 53 per cent. were fit for restricted flying duties as pilots, the restrictions normally applying to the duration and altitude of flight, aerobatics, or type of aircraft to be piloted. A number were limited to home service only. In addition to these officers fit for limited flying only, 6 per cent. were temporarily unfit at the date of examination. Of the 2,137 officers liable for flying duties 97 per cent were fit to pilot aircraft. Four hundred and four officers of the general duties branch over 40 years of age, in whom fitness for flying as pilots of aircraft is not essential, were examined during the year, and of these 68 per cent. were found fit for full flying duties, and 83 per cent. fit as pilots of aircraft, 11 per cent. fit for full ground duties, 5 per cent. fit for full ground duties in the United Kingdom and 1 per cent. unfit for duty. This shows marked improvement as compared with 1933 when 63 per cent. were fit for full flying duties and 74 per cent. as pilots of aircraft.

(iii) Of 92 cadets examined during the year as to their fitness to fly as pilots 97 per cent. were found fit for full flying duties. Of the

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three cadets found unfit two were fit for full flying duties at home only, and one temporarily unfit at the date of the examination.

Tables XXIV and XXV, pages 78 and 79 analyse the responses of the cadets to the standard physical efficiency tests.

(iv) Of 529 airman pilots, 99 per cent. were fit for full flying duties, and of the one per cent. (5) unfit for these duties, 2 were restricted to home service only, or as regards aerobatics, altitude or duration of flight, and 3 were temporarily unfit at the date of the examination. Tables XXIV and XXV analyse the responses of the airman pilots to the standard physical efficiency tests.

(v) During 1934, 738 officers of branches other than the general duties branch, who must be fit for general service and to fly as passengers, were examined and 94 per cent. were found fit for their full duties, while 5 per cent. of those found unfit were fit for full duties in the United Kingdom. This shows little change from 1933.

Princess Mary's Royal Air Force Nursing Service

93. During 1934 the average strength of the branch was 107. 23 members—13 at home and 10 abroad—were admitted to hospital, representing 753 days' sickness, or an average of 7·0 days per member compared with 6·0 in 1933 and 9·6 in 1932; the average number of sick daily was 2·0 in 1934 compared with 1·8 in 1933, 2·8 in 1932 and 3·1 in 1931. One member was invalided from abroad to the United Kingdom. There were no deaths in the service during the year.

Recruiting Statistics—1934

Summary of Medical Examinations

94. (i) The same arrangements regarding recruiting held during 1934 as in 1933. During 1934 all airman recruits, prior to acceptance into the service, were medically examined at the London Recruiting Depôt, either as direct applicants or referred after preliminary medical examination by civilian medical practitioners in the provinces and R.A.F. medical officers at R.A.F. stations; candidates who are definitely unfit are eliminated and only those who are considered to be fit or on the border-line are sent to the London Recruiting Depôt for the final examination. Candidates for attestation as aircraft apprentices and apprentice clerks and boy entrants are examined at Halton, Ruislip and West Drayton respectively, by R.A.F. medical officers under arrangements of the principal medical officers of the respective areas.

(ii) (*a*) During 1934, 4,844 medical examinations were carried out on candidates for enlistment as airmen. Of these 44 per cent. were finally found fit for general service, 8 per cent. (355 found fit by civilian medical practitioners and 21 by R.A.F. medical officers) not having attended the London Recruiting Depôt for final examination. 1,799 or 37 per cent. of those examined were attested during the year.

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(*b*) At Halton 78 per cent. of 830 candidates were found fit as aircraft apprentices as compared with 75 per cent. in 1933.

(*c*) At Ruislip 153 candidates were examined as to fitness for entry as apprentice clerks and 70 per cent. were found fit, as compared with 72 per cent. in 1933.

(*d*) A new type of apprentice was recruited for the first time in 1934, known as " boy entrant " and required for training as armourer, photographer or wireless operator. Two hundred and two applicants were examined at West Drayton and 77 per cent. accepted as fit.

(*e*) In all 1,799 recruits were attested as airmen ; these with 644 aircraft apprentices, 108 apprentice clerks and 155 boy entrants, made a total intake of 2,706 in 1934 as compared with 1,343 in 1933.

(iii) During 1934, 3,227 candidates as airman recruits were examined by civilian medical practitioners in the provinces on preliminary medical examinations and of these 44 per cent. as compared with 41 per cent. in 1933 and 51 per cent. in 1932 were found unfit for service. Of those found fit 1,445 attended the London Recruiting Depôt for final examination and of these 20 per cent. as compared with 21 per cent. in 1933 and 29 per cent. in 1932, were rejected.

(iv) At 24 R.A.F. Stations 207 candidates as airman recruits were examined by R.A.F. medical officers on preliminary medical examinations and of these 37 per cent., as compared with 27 per cent. in 1933 and 34 per cent. in 1932, were found unfit for service. Of those found fit 108 attended the London Recruiting Depôt for final examination, 20 per cent., as compared with 20 per cent. in 1933 and 37 per cent. in 1932, being rejected.

(v) During the year 1,410 candidates, as " Direct Applicants," were examined at the London Recruiting Depôt and of these 36 per cent. were found unfit as compared with 39 per cent. in 1933 and 50 per cent. in 1932. A total of 2,963 medical examinations were carried out at the London Recruiting Depôt during the year, 35 candidates were found temporarily unfit, 17 presented themselves for re-examination and with two exceptions were accepted, making 2,142 finally found fit, 18 temporarily unfit and 803 rejected. Out of the 2,142 found fit during the year, 10 per cent. as compared with 7 per cent. in 1933, were found to have defective colour vision and 32 per cent. had not been vaccinated.

(vi) During 1934, 9 aircraftmen having less than 6 months' service were discharged on account of the following disabilities :—

Bacteriuria	1	Double hallux valgus	1
Pulmonary tuberculosis	2	Hallux valgus (Left)..	1
Haemophilia	1	Ozœna	1
Adhesions following Appendicectomy ..	1	Obstruction to lymphatic return in right leg	1

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Table XXVII analyses the results of all the medical examinations carried out during the year showing the causes of rejection, the chief of which being loss or decay of teeth followed by deformities of feet and poor physique: these were also the chief causes of rejection during previous years.

During the year, 92 civilian medical practitioners were employed on the 3,227 preliminary medical examinations carried out in the provinces.

Royal Air Force Reserve

95. (i) Three hundred and eighteen applicants for flying training in the Reserve were examined during the period at the Central Medical Establishment as compared with 208 in 1933, and of these 31 per cent. were rejected as medically unfit compared with 46 per cent. in 1933 and 27 per cent. in 1932. Table XXII gives an analysis of the causes of rejection.

(ii) Annual medical examinations were carried out on 643 pilots of the Reserve during the year and of these 15 per cent. were found temporarily unfit and 0·3 per cent. permanently unfit for flying duties. For various reasons it is not possible to examine every officer of the Reserve during each year, but an attempt is made to examine as many as possible.

Dental Treatment

96. (i) The standard of oral hygiene of recruits on enlistment during the year under review is classified as follows:—

	Good	37 per cent.
	Fair	43 per cent.
and	Neglected	20 per cent.

compared with

	Good	21 per cent.
	Fair	57 per cent.
and	Neglected	22 per cent.

for the previous year.

(ii) The percentage of aircraft apprentices found free from dental caries on entry was 3·5 in 1934 compared with 6·4 for the previous year, and the percentage in regard to recruits was 4·1 compared with 5·4. For those aircraft apprentices and recruits requiring dental treatment the average number of fillings needed per head to render them dentally fit on entry was 5·1 as compared with 5·9 for 1933, and the average number of extractions required was 0·6 and 0·5 for the respective years.

(iii) The total number of fillings completed during the year 1934 shows an increase of 1,223 compared with the previous year whilst the number of extractions decreased by 1,222.

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(iv) Three hundred and forty six X-ray exposures were made in connection with treatment at the Uxbridge Depôt Dental Centre.

(v) Table XXIX gives an analysis of the dental work completed during the year.

Transfer of Casualties by Air

97. (i) During 1934 in Iraq, 143 patients were evacuated by air in 93 flights over a distance of 26,236 miles. Twenty of these flights were special and at the request of the medical authorities, and 73 were routine in which advantage was taken of the presence of aircraft on other Service duties at the station from which it was desired to evacuate patients. The total number of hours flying with patients emplaned was 330 hours. Of the 93 flights undertaken, 11 were conveying a total of 27 invalids to the Middle East Command from Iraq. Victorias and Wapitis were used for the great majority of these flights. Of 12 flights in Wapitis, the Neil Robertson stretcher outfit, carried within the fuselage of the aircraft, was used on 3 occasions.

(ii) In the Middle East Command 29 patients were evacuated from Transjordan to hospital in Palestine in 28 flights. Of these flights 21 were at the special request of the medical authorities and 7 were routine. In each case Gordon aircraft were used and on 11 occasions the patient was carried in a Neil Robertson stretcher. One invalid was transferred by air from Palestine to Egypt. The total number of miles flown with patients emplaned was 2,280.

(iii) In India one patient was transferred by air to hospital and three flights were made carrying four medical officers and one nursing sister in connection with cases of serious illness.

Medical Training Depôt

98. (i) Eleven medical officers and one dental officer were given preliminary training on first appointment to commissions and all successfully completed the courses.

(ii) Ninety-nine airmen, of whom 97 enlisted for the medical branch and two for the dental branch, were placed under training. Eight of these were remustered to aircrafthands, group 5, as unlikely to prove efficient medical airmen, one was discharged as unlikely to become efficient (on medical grounds), and the remainder successfully passed out of the Medical Training Depôt.

(iii) During the year 284 airmen of the medical and dental branches presented themselves at the various trade tests for reclassification, remustering, extra qualification and promotion. Of these, 237 were successful, and of the 47 failures, 20 were candidates for reclassification ; that is only partial failures.

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TABLE XIX.—NUMBER OF MEDICAL EXAMINATIONS CARRIED OUT AT THE CENTRAL MEDICAL ESTABLISHMENT DURING THE YEARS 1930–1934.

Nature of Medical Examination.	1930.	1931.	1932.	1933.	1934.
Flying Duties (General) ..	*163*	*372*	*397*	*284*	559
Medical Boards	*1,117*	*1,144*	*1,132*	*1,164*	1,118
Cadets (Applicants) ..	*196*	*234*	*294*	*312*	393
Reserves (Applicants) ..	*145*	*131*	*157*	*208*	370
Airman Pilots	*81*	*115*	*107*	*46*	85
Ground Duties	*134*	*170*	*167*	*148*	73
Civil Pilots	*577*	*673*	*799*	*892*	871
Annual Confidential Reports	*143*	*142*	*140*	*141*	130
Civil personnel	*150*	*51*	*64*	*47*	83
Consultant Reports ..	—	*124*	*77*	*59*	53
Total No. of Examinations	*2,706*	*3,156*	*3,334*	*3,301*	3,735

TABLE XX.—RESULTS OF MEDICAL EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 821 CANDIDATES FOR FLYING DUTIES IN THE REGULAR AIR FORCE DURING THE YEAR 1934.

Class of candidate.	Total number of candidates examined.	Number accepted	Number rejected.		Percentage accepted.
			Finally	Temporarily.*	
Cadets	278	204	64	10	73
Airman pilots	80	54	24	2	68
Short service commission	342	227	102	13	66
Fleet Air Arm	27	25	2	0	93
Secondments from Army	9	7	1	1	78
Permanent commissions (University nominations)	85	53	26	6	62
Totals	821	570	219	32	69

* These cases were still temporarily unfit at the end of 1934.

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TABLE XXI.—CANDIDATES ACCEPTED FOR FLYING DUTIES.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Nature of tests.	Unit of measurement.	All classes of candidates : average result of test (numbers accepted in each period are shown in brackets).					
		1925–29 (2,033)	1930 (406)	1931 (293)	1932 (312)	1933 (216)	1934 (404)
Standing height	Cms.	*175·3*	*175·5*	*176·1*	*175·4*	*176·4*	176·8
Weight	Kgs.	*64·4*	*65·4*	*66·7*	*65·6*	*66·0*	67·0
Chest	Cms.	*86·8*	*86·3*	*88·8*	*86·6*	*88·0*	88·0
Vital capacity	Cc.	*4,921*	*4,991*	*5,053*	*4,898*	*5,033*	5,104
Breath-holding	Seconds.	*78·8*	*82·2*	*84·9*	*83·6*	*86·3*	82·8
Expiratory force	Mm. Hg.	*139·5*	*134·1*	*144·3*	*144·9*	*138·0*	139·8
Fatigue test	Seconds.	*65·8*	*69·4*	*73·0*	*68·1*	*69·9*	68·2
Systolic pressure	Mm. Hg.	*129·9*	*131·1*	*131·2*	*133·7*	*130·5*	130·0
Diastolic pressure	Mm. Hg.	*79·0*	*78·1*	*80·1*	*80·7*	*74·9*	75·8
Pulse rate :—							
Sitting	Per min.	*72·1*	*71·9*	*70·4*	*72·1*	*71·6*	72·3
Standing (first 5 secs.)	Per min.	*	*	*	*	*94·5*	94·6
† ,, (lowest steady rate)	Per min.	*79·9*	*81·7*	*80·8*	*83·1*	*81·9*	81·5
After exercise	Per min.	*104·8*	*105·5*	*103·3*	*106·9*	*106·6*	106·4
Time taken to return to normal	Seconds.	*29·9*	*32·7*	*32·1*	*31·9*	*32·4*	31·7

* Not recorded prior to 1933.

† Comparable with " pulse, rate, standing " of previous reports.

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TABLE XXII.—CAUSES OF REJECTION, ON MEDICAL GROUNDS, BY THE CENTRAL MEDICAL ESTABLISHMENT DURING THE YEAR, 1934.

	(1) Vision.		(2) Ear, nose, throat and teeth.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1) (2) (3) with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	—	9	—	—	5	10	1	3	—	4	6	26
Short service commissions ..	2	41	3	2	10	13	—	25	—	21	15	102
Cadets	2	32	1	1	5	3	2	19	—	9	10	64
Reserves	3	46	2	2	8	19	1	22	4	11	18	100
Airman pilots ..	—	13	1	1	1	5	—	4	—	1	2	24
Auxiliary Air Force	—	2	—	—	2	—	—	—	—	—	2	2
Fleet Air Arm ..	—	1	—	—	—	1	—	—	—	—	—	2
Princess Mary's Royal Air Force Nursing Service..	1	—	—	—	—	3	—	—	—	1	1	4
Preliminaries for commissions and cadets	4	13	1	1	—	3	2	2	3	8	10	27
Others	—	1	—	—	1	1	—	1	—	—	1	3
Total ..	12	158	8	7	32	58	6	76	7	55	65	354

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TABLE XXIII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE TO FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1934	1,342	138	1,480	91
	1933	*1,368*	*152*	*1,520*	*90*
	1932	*1,483*	*136*	*1,619*	*92*
	1931	*1,435*	*163*	*1,598*	*90*
	1930	*1,457*	*137*	*1,594*	*91*
	1929	*1,424*	*201*	*1,625*	*88*
	1928	*1,330*	*205*	*1,535*	*87*
	1927	*1,308*	*188*	*1,496*	*87*
	1926	*1,375*	*191*	*1,566*	*88*
	1925	*1,401*	*154*	*1,555*	*90*
	1924	*1,384*	*168*	*1,552*	*89*
	1923	*1,330*	*196*	*1,526*	*87*
	1922	*1,181*	*173*	*1,354*	*87*
Abroad	1934	642	15	657	98
	1933	*621*	*24*	*645*	*96*
	1932	*583*	*28*	*611*	*95*
	1931	*582*	*29*	*611*	*95*
	1930	*561*	*25*	*586*	*96*
	1929	*586*	*39*	*625*	*94*
	1928	*517*	*48*	*565*	*92*
	1927	*519*	*56*	*575*	*90*
	1926	*593*	*57*	*650*	*91*
	1925	*665*	*52*	*717*	*93*
	1924	*672*	*60*	*732*	*92*
	1923	*616*	*85*	*701*	*88*
	1922	*638*	*104*	*742*	*86*
Total	1934	1,984	153	2,137	93
	1933	*1,989*	*176*	*2,165*	*92*
	1932	*2,066*	*164*	*2,230*	*93*
	1931	*2,017*	*192*	*2,209*	*91*
	1930	*2,018*	*162*	*2,180*	*93*
	1929	*2,010*	*240*	*2,250*	*89*
	1928	*1,847*	*253*	*2,100*	*88*
	1927	*1,827*	*244*	*2,071*	*88*
	1926	*1,968*	*248*	*2,216*	*89*
	1925	*2,066*	*206*	*2,272*	*91*
	1924	*2,056*	*228*	*2,284*	*90*
	1923	*1,946*	*281*	*2,227*	*87*
	1922	*1,819*	*277*	*2,096*	*87*

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TABLE XXIV.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH, CADETS AND AIRMAN PILOTS, 1934

Nature of test.	Officers.						Cadets (89 fit; 3 unfit).		Airman pilots, (524 fit; 5 unfit).		Total officers, cadets and airman pilots (2,758).	
	Fit for flying duties (1,984).		Unfit for flying duties (153).		Total (2,137).							
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	791	40	62	41	853	40	32	35	170	32	1,055	38
,, present	1,193	60	91	59	1,284	60	60	65	359	68	1,703	62
Self-balancing, steady	1,880	95	139	91	2,019	94	91	99	518	98	2,628	95
,, ,, unsteady ..	104	5	14	9	118	6	1	1	11	2	130	5
Knee jerks—normal	1,740	88	124	81	1,864	87	76	83	467	88	2,407	87
,, ,, abnormal	244	12	29	19	273	13	16	17	62	12	351	13
Vision, 6/6 both eyes	1,928	97	140	91	2,068	97	90	98	527	(a)	2,685	97
,, 6/6 and 6/9; 6/9 and 6/9	45	2	9	6	54	2	1	1	1	(b)	56	2
,, over 6/9 in either eye ..	11	1	4	3	15	1	1	1	1		17	1
Nasopharynx—normal	1,894	95	149	97	2,043	96	92	100	513	97	2,648	96
,, abnormal ..	90	5	4	3	94	4	—	—	16	3	110	4
Teeth—no treatment required ..	1,817	92	145	95	1,962	92	90	98	487	92	2,539	92
,, treatment required ..	167	8	8	5	175	8	2	2	42	8	219	8
Pyorrhœa—absent	1,972	99	152	99	2,124	99	92	100	529	100	2,745	(c)
,, present	12	1	1	1	13	1	—	—	—	—	13	

(a) 6/6 and 6/9, or 6/9 and 6/9 in less than 0·5% of numbers examined.
(b) Over 6/9 in either eye in less than 0·5% of numbers examined.
(c) Present in less than 0·5% of numbers examined.

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TABLE XXV.—AVERAGE RESULTS OF TESTS OF 1,984 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, 89 CADETS AND 524 AIRMAN PILOTS FIT FOR FLYING DUTIES, 1934

—	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.				Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing (1st 5 secs.)*.	Standing. (lowest steady rate)†.	After-exercise.			
OFFICERS.				Kgs.	Secs.	Mm. Hg.	Secs.					Secs.	Mm. Hg	Mm. Hg.
At home	Under 25 ..	442	22·6	70·5	83·8	153·0	66·4	70·3	86·7	75·1	98·7	23·1	124·0	49·3
	25–30 ..	494	27·4	71·8	81·8	160·6	67·1	71·8	87·2	76·6	99·9	24·0	124·8	48·0
	31 and over	406	35·9	72·7	79·3	167·5	65·2	71·9	86·7	76·7	98·9	24·4	124·6	46·4
	All ages ..	1,342	28·4	71·7	81·7	160·2	66·3	71·4	86·9	76·2	99·2	23·8	124·5	48·0
Abroad	Under 25 ..	244	22·9	69·2	90·6	152·0	71·4	69·8	87·4	77·0	99·6	23·9	124·3	48·9
	25–30 ..	217	27·6	70·9	87·1	163·2	68·0	70·4	87·0	76·8	99·4	23·9	123·2	47·0
	31 and over	181	35·7	73·4	84·4	171·2	65·8	71·6	87·7	78·2	98·2	24·8	124·6	47·0
	All ages ..	642	28·1	71·0	87·7	161·2	68·7	70·5	87·3	77·2	99·0	24·1	124·0	47·7
Total force ..	Under 25 ..	686	22·7	70·1	86·3	152·7	68·2	70·1	86·9	75·8	99·0	23·4	124·2	49·2
	25–30 ..	711	27·5	71·6	83·5	161·4	67·3	71·4	87·1	76·7	99·6	23·9	124·4	47·7
	31 and over	587	35·8	72·9	80·8	168·6	65·4	71·8	87·0	77·1	98·7	24·5	124·6	46·6
	All ages ..	1,984	28·3	71·4	83·7	160·5	67·1	71·1	87·0	76·5	99·2	23·9	124·4	47·9

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CADETS	Under 25 ..	89	19·9	68·0	86·5	141·5	71·4	68·8	89·0	76·0	98·5	25·0	122·6	49·0
AIRMAN PILOTS.														
At home	Under 25 ..	77	23·5	67·7	87·6	154·7	67·2	71·5	87·7	76·2	99·9	24·0	126·4	50·5
	25–30 ..	250	27·1	69·0	81·9	163·1	65·2	71·9	87·2	75·7	99·9	23·9	128·1	49·1
	31 and over	20	34·0	67·6	77·2	173·0	62·9	72·6	88·0	77·7	102·0	26·0	125·8	47·5
	All ages ..	347	26·7	68·7	82·9	161·9	65·6	71·9	87·4	75·9	100·0	24·0	127·6	49·3
Abroad	Under 25 ..	89	23·6	68·2	86·4	145·4	66·7	70·6	91·7	79·0	103·2	23·3	126·2	48·7
	25–30 ..	83	26·5	65·4	89·1	158·2	68·6	71·5	87·8	78·6	99·0	23·3	125·5	47·7
	31 and over	5	33·5	74·0	85·0	146·0	73·8	68·2	85·2	72·0	95·2	27·0	124·4	45·0
	All ages ..	177	25·2	67·0	87·6	151·4	67·8	70·9	89·7	78·6	101·0	23·4	125·9	48·2
Total force ..	Under 25 ..	166	23·5	68·0	86·9	149·7	66·9	71·0	89·8	77·7	101·7	23·6	126·4	49·6
	25–30 ..	333	26·9	68·0	83·6	161·9	66·0	71·8	87·3	76·4	99·6	23·7	127·3	48·7
	31 and over	25	33·9	68·9	78·8	167·6	65·1	71·7	87·4	76·6	100·6	26·2	125·5	46·9
	All ages ..	524	26·2	68·1	84·5	158·3	66·3	71·5	88·2	76·8	100·3	23·8	127·0	48·9

* Not recorded prior to 1933.

† Comparable with " pulse rate, standing " of reports for 1933 and earlier years.

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TABLE XXVI.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 153 OFFICERS OF THE GENERAL DUTIES BRANCH, 1934.

Defect.	At home.	Abroad.	Total.
Vision	23	4	27
Ears or teeth	4	—	4
Medical	65	4	69
Surgical	44	6	50
D.P.E.	1	1	2
D.P.E. and vision	1	—	1
Total ..	138	15	153

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TABLE XXVII.—AIRMAN RECRUITS—CAUSES OF REJECTION, 1934.

Total examinations, 4,844.	Numbers rejected.					
Cause of rejection.	By civilian medical practitioners.	At London Recruiting Depôt.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	498	191	30	719	148	310
Physique, poor	190	95	14	299	62	130
Feet, deformities of	264	156	11	431	89	187
Heart, diseases of, including D.A.H.	155	44	6	205	42	89
Ears, diseases of	21	73	1	95	20	41
Lungs, diseases of	21	17	1	39	8	17
Vision, defects of	73	78	2	153	31	66
Speech, defects of	5	5	—	10	2	4
Nervous system, diseases of	2	6	—	8	2	3
Cutaneous system, diseases of ..	19	7	1	27	6	12
Albuminuria	6	17	4	27	6	12
Eyes and eyelids, diseases of ..	2	7	—	9	2	4
Hernia and bubonocele	12	13	—	25	5	12
Joints, diseases of	—	—	—	—	—	—
Veins, diseases of (varix)	30	22	1	53	11	23
Varicocele	39	22	1	62	13	27
Chest and spine, malformations of ..	5	4	—	9	2	4
Urinary organs, diseases of	1	—	1	2	1	1
Bed-wetting, history of	—	2	—	2		1
Ulcers, wounds, cicatrices	7	5	—	12	2	5
Other causes	77	39	5	121	25	52
Total	1,427	803	78	2,308	477	1,000

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TABLE XXVIII.—SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1934

	UNITED KINGDOM.			ABROAD.				TOTAL.
	Central.	Cranwell.	Halton.	Hinaidi and Basrah.	Aden.	Palestine.	Egypt.	
ANALYSES :—								
Faeces	146	27	404	3	1	16	110	707
Gastric	11	17	46	18	—	29	—	121
Urine	574	2,579	8,643	806	567	1,326	1	14,496
Food	21	2	3	388*	39	15	—	468
Sewage	60	—	—	—	—	—	—	60
Water	268	14	—	2,056*	40	160	78	2,616
BLOOD :—								
Agglutination ..	95	3	76	36	20	41	7	278
Coagulation time	2	74	253	6	43	12	6	396
Counts	217	169	419	142	72	116	89	1,224
Cultures.. ..	74	10	22	39	3	9	—	157
Malaria parasites	196	78	63	449	154	456	474	1,870
Sugar	169	14	7	1	1	—	—	192
Urea	79	16	86	11	—	1	—	193
Van den Bergh ..	59	3	6	—	5	5	—	78
Wassermann ..	268	170	644	375	100	214	25	1,796
CEREBRO-SPINAL FLUID :—								
Bio-chemical ..	20	1	26	2	1	2	—	52
Cell counts ..	20	—	26	3	—	2	—	51
Complement deviation ..	20	—	26	—	—	2	—	48
Cultures.. ..	20	—	14	5	2	2	—	43
Meningococcus	5	—	14	3	2	—	—	24
Tubercle bacillus	17	—	24	2	2	4	—	49
DISCHARGE FOR :—								
Bacillus Ducrey	—	—	—	52	8	22	18	100
Gonococcus ..	18	830	697	532	275	294	52	2,698
Spironema ..	3	14	5	50	10	22	17	121
FAECES FOR :—								
Bacteria ..	261	78	546	2,115	351	984	333	4,668
Protozoa ..	263	78	528	2,269	296	968	533	4,935
Helminths ..	114	93	558	16	296	963	538	2,578
PATHOLOGICAL SPECIMENS ..	62	8	35	6	3	4	—	118
PERI-DENTAL SMEARS	3	9	3	13	—	—	—	28
PUS FOR :—								
Pyogenic organisms	198	228	524	16	3	23	97	1,089
Leishmania ..	—	2	1	9	1	1	9	23
RENAL EFFICIENCY TESTS.. ..	66	19	98	13	1	6	—	203
SEPTIC FLUIDS ..	95	—	590	—	4	—	—	689
SPUTA :—								
General	153	129	513	375	82	189	51	1,492
Tubercle bacillus	193	129	513	385	110	189	52	1,571
THROAT SWABS ..	11,295	370	1,624	361	112	182	203	14,147
VACCINES, AUTOGENOUS ..	87	51	31	16	9	4	20	218
MISCELLANEOUS ..	528	1,678	17	31	1	10	1,403	3,668
ANIMAL EXPERIMENTS ..	569	—	—	5	—	—	1	575
TOTALS ..	16,249	6,893	17,085	10,609	2,614	6,273	4,117	63,840
	40,227 United Kingdom.			23,613 Abroad.				

* Includes 2,444 examinations carried out by Chief Chemist's Laboratory, Dhibban. Waters, 1,756; Mineral waters, 128; Ice, 172; Foods, 388—Total, 2,444.

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TABLE XXIX.—DENTAL TREATMENT, 1934.

BY ROYAL AIR FORCE DENTAL OFFICERS.

	United Kingdom. (Average strength, 21,424.)	Mediterranean Littoral. (Average strength, 3,283.)	Iraq. (Average strength, 2,045.)	Total. (Average strength, 26,752.)
Fillings	27,312	5,225	2,309	34,846
Scalings	5,994	1,201	260	7,455
Extractions	7,497	1,113	569	9,179
Root fillings	138	11	23	172
Number of dentures supplied	495	82	44	621
Number of personnel fitted with dentures ..	363	59	27	449
Repairs to dentures ..	122	27	42	191
Remodels..	224	69	42	335

Dental treatment for Royal Air Force personnel in India, Palestine and Khartoum is carried out by the Army, and in the Far East and Fleet Arm embarked by the Navy.

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Air Publication 875 (1935)

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1935

The following Report on the Health of the Royal Air Force for the Year 1935 is issued for the information and guidance of all concerned.

By Command of the Air Council,

Donald Banks

AIR MINISTRY

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force for the year 1935.

The incidence of sickness shows a decrease of 6 per 1,000 of strength, for cases admitted to hospitals and sick quarters, below that for 1934 and is the lowest figure recorded since the inception of these reports.

There was a very marked increase in upper air passage infections among apprentices, from 267·9 in 1934 to 514·2 per 1,000 in 1935, but this was partially offset by a decrease in the incidences for all other diseases and injuries. The incidence of injuries for apprentices shows a marked decrease from 115·2 in 1934 to 57·3 per 1,000 in 1935.

Venereal disease, once more, is lower at 9·5 per 1,000 of strength as compared with 9·9 per 1,000 in 1934.

Invalidings from the Service fell in incidence from 5·1 per 1,000 in 1934 to 4·8 per 1,000 in 1935. These figures compare with the average incidences of 6·4 and 9·9 per 1,000 for the periods 1928–1934 and 1921–1927 respectively.

A total of 52 deaths in the earthquake at Quetta is the main cause of the increase to 4·8 per 1,000 in the incidence of deaths for the total force. This compares with incidences of 3·8 and 4·3 per 1,000 for the periods 1928–1934 and 1921–1927 respectively.

The incidences of venereal disease and invalidings from the Service are the lowest yet recorded in the Royal Air Force.

I have the honour to be, Sir,

Your obedient Servant,

A. W. IREDELL.

Director of Medical Services,
Royal Air Force.

August, 1936.

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Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.					
		Not more than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	Fresh cases of sickness.		Deaths.	Invalided out of service.	Invalided to United Kingdom.	No. sick daily.
												48-hour cases included.	48-hour cases excluded.				48-hour cases included.	48-hour cases excluded.
United Kingdom (*a*).																	
1935	25,242	6,013	8,656	14,669	74	135	—	10	16	5·9	5·6	581	343	2·9	5·3	—	16·2	15·3
1928–34. Average ..	*22,582*	*4,272*	*8,429*	*12,701*	*81*	*169*	—	*13*	*18*	*7·2*	*6·9*	*562*	*373*	*3·6*	*7·5*	—	*19·7*	*18·9*
1921–27. Average ..	*22,161*	*8,875*	*8,267*	*17,142*	*72*	*255(c)*	—	*10*	*18*	*7·4*	*6·8*	*774*	*373*	*3·2*	*11·5(c)*	—	*20·3*	*18·6*
Fleet Air Arm.																	
1935	1,029	148	412	560	5	1	11	12	16	6·7	6·5	544	400	4·9	1·0	30·1	18·4	17·8
1927–34. Average ..	*855*	*263*	*322*	*585*	*6*	*3*	*8*	*10*	*17*	*6·7*	*6·3*	*684*	*377*	*7·0*	*3·5*	*19·9*	*18·4*	*17·3*
Mediterranean Littoral.																	
1935 (*b*)	4,811	2,580	2,302	4,882	16	13	63	9	17	8·9	8·0	1,015	478	3·3	2·7	13·1	24·4	21·9
1928–34. Average (*b*) ..	*3,840*	*1,687*	*1,898*	*3,585*	*15*	*13*	*44*	*9*	*16*	*8·3*	*7·7*	*933*	*494*	*3·9*	*3·4*	*11·5*	*22·7*	*21·1*
1921–27. Average (*a*) ..	*3,599*	*2,227*	*2,084*	*4,311*	*20*	*20*	*64*	*10*	*19*	*11·9*	*11·0*	*1,201*	*581*	*5·6*	*5·6*	*17·8*	*32·6*	*30·1*
Iraq.																	
1935	2,020	622	1,165	1,787	9	13	59	16	24	14·0	13·6	884	577	4·5	6·4	29·2	38·3	37·2
1928–34. Average ..	*2,158*	*712*	*1,437*	*2,149*	*12*	*10*	*55*	*14*	*20*	*13·7*	*13·2*	*996*	*666*	*5·6*	*4·6*	*25·5*	*37·5*	*36·2*
1921–27. Average ..	*2,960*	*2,697*	*2,708*	*5,405*	*24*	*17*	*82*	*10*	*18*	*18·0*	*16·8*	*1,826*	*915*	*8·1*	*5·7*	*27·7*	*49·3*	*46·0*
India.																	
1935	2,042	597	1,004	1,601	62	5	56	11	17	8·6	8·2	784	492	30·4	2·4	27·4	23·6	22·5
1928–34. Average ..	*2,075*	*849*	*1,226*	*2,075*	*9*	*6*	*19*	*10*	*15*	*9·6*	*8·9*	*1,000*	*591*	*4·3*	*2·9*	*9·2*	*26·3*	*24·4*
1921–27. Average ..	*1,887*	*2,150*	*1,390*	*3,540*	*17*	*11*	*48*	*7*	*16*	*13·3*	*11·7*	*1,876*	*737*	*9·0*	*5·8*	*25·4*	*36·4*	*32·1*
Abroad: All areas (*a*) (*d*).																	
1935	9,856	4,137	5,087	9,224	93	35	196	11	19	10·3	9·7	936	516	9·4	3·6	19·9	28·2	26·6
1928–34. Average ..	*8,767*	*3,534*	*4,910*	*8,444*	*39*	*33*	*131*	*10*	*17*	*10·1*	*9·5*	*963*	*560*	*4·4*	*3·8*	*14·9*	*27·7*	*26·0*
1921–27. Average ..	*8,521*	*7,129*	*6,218*	*13,347*	*61*	*49*	*194*	*9*	*18*	*14·3*	*13·1*	*1,566*	*730*	*7·2*	*5·8*	*22·8*	*39·2*	*35·9*
All areas.																	
1935	35,098	10,150	13,743	23,893	167	170	196	10	17	7·1	6·7	681	392	4·8	4·8	19·9	19·4	18·4
1928–34. Average ..	*31,349*	*7,806*	*13,339*	*21,145*	*120*	*202*	*131*	*12*	*18*	*8·0*	*7·6*	*674*	*425*	*3·8*	*6·4*	*14·9*	*21·9*	*20·8*
1921–27. Average ..	*30,682*	*16,004*	*14,485*	*30,489*	*133*	*304(c)*	*194*	*9*	*18*	*9·3*	*8·6*	*994*	*472*	*4·3*	*9·9(c)*	*22·8*	*25·5*	*23·6*

(*a*) Includes Fleet Air Arm in this area. (*b*) Excludes Fleet Air Arm in this area. (*c*) Excludes 711 invalids through Discharge Centre Medical Board during 1921.
(*d*) Includes sickness at Far East stations (390 cases, 3 deaths, 4 finally invalided and 7 invalided to United Kingdom in 1935: average strength 618).

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1935

The method of recording statistics by commands in this report is similar to that adopted for all previous reports and is as follows :—

(i) All deaths, and all invalids discharged from the Service are shown under the command on whose strength the personnel concerned were borne when first admitted to sick quarters or hospital, irrespective of the command in which the death or invaliding took place.

(ii) All sickness in respect of cases invalided to home establishment is shown under the command in which the illness first developed.

General

1. The total sickness in the Royal Air Force at home and abroad is analysed in table I, page viii, by geographical areas. There has been no change in the areas since last year's report, and the average personnel strengths of the localities included under the geographical area of Mediterranean Littoral were :—Malta, 575 ; Egypt, 2,472 ; Sudan, 364 ; Transjordan and Palestine, 654 ; Aden, 523 ; drafts en route to and from the United Kingdom, 174 ; and Special Duties, 49. Table I compares the figures for 1935 with the corresponding average figures for the two periods 1928–34 and 1921–27. Throughout the report these two periods are referred to as the two preceding periods respectively. Separate figures are shown for the Fleet Air Arm, which varies throughout the year as to locality, and the details of sickness at stations in the Far East Command, which includes Singapore and Kai Tak, China, are given in a footnote to this table.

2. The average strength of the total force during 1935 was 35,098 and the total number of cases of sickness, i.e., inclusive of admissions to hospitals and sick quarters and cases of not more than 48 hours' duration, was 23,893, giving a case incidence of 681 per 1,000 of strength compared with an incidence of 632 per 1,000 in 1934 and average incidences of 674 and 994 respectively for the two preceding periods.

3. In the total force the number of admissions to hospitals and sick quarters was 13,743, representing an incidence of 392 per 1,000 of strength compared with an incidence of 398 per 1,000 in 1934 and average incidences of 425 and 472 respectively for the two preceding periods.

4. Comparing the force at home and abroad, the total sickness incidence at home has increased from 531 in 1934 to 581 per 1,000 of strength in 1935 and compares with the average incidences of 562 and 774 per 1,000 for the two preceding periods. Abroad, the

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total sickness incidence figure increased from 866 in 1934 to 936 per 1,000 in 1935, compared with the corresponding average incidences of 963 and 1,566 for the two preceding periods.

At home, the number of admissions to hospitals and sick quarters was 8,656, representing an incidence of 343 per 1,000 of strength compared with figures of 336 in 1934 and 373 per 1,000 for each of the two preceding periods. Abroad, the comparable figures are 5,087 admissions to hospitals and sick quarters, an incidence of 516 per 1,000 of strength, which compares with 544 per 1,000 in 1934 and 560 and 730 per 1,000 for the two preceding periods.

5. (i) In the whole force, including cases of not more than 48 hours' duration, the number of sick daily at 19·4 per 1,000 of strength is 0·6 per 1,000 lower than the corresponding figure for 1934 and compares with average incidences of 21·9 and 25·5 per 1,000 for the two preceding periods. The comparable figures for home and abroad are as follows:—At home, 16·2 per 1,000 of strength were constantly sick in 1935 compared with 16·7 in 1934 and 19·7 and 20·3 per 1,000 for the two preceding periods. Abroad, the figures were 28·2, 27·7, 27·7 and 39·2 per 1,000 for 1935, 1934, and the two preceding periods respectively.

(ii) Excluding cases of not more than 48 hours' duration, in the total force the number of sick daily was reduced from 18·9 per 1,000 of strength in 1934 to 18·4 in 1935, and compares with the average incidences of 20·8 and 23·6 per 1,000 for the two preceding periods. At home, the number of sick daily in hospitals and sick quarters showed a reduction of 0·5 per 1,000 in 1935 compared with 1934, and the figure of 15·3 per 1,000 for 1935 compares favourably with the figures 18·9 and 18·6 per 1,000 for the two preceding periods. Abroad, the constantly sick figure of this class in 1935, 26·6, shows a slight increase over the figure for 1934, 26·3, and compares with averages of 26·0 and 35·9 per 1,000 for the two preceding periods.

6. In the total force, the average duration of each case was 10 days in 1935, compared with 12 days in 1934; the averages for the two preceding periods were 12 and 9 days, while the average number of days' sickness per head, 7·1, shows a reduction of 0·2 in 1935 from 7·3 days in 1934, and compares with averages of 8·0 and 9·3 days for the two preceding periods.

7. (i) Causes of sickness, excluding cases of not more than 48 hours' duration, in the force as a whole are analysed in table II, page 21, by certain diseases, groups of diseases, and injuries, to show the number of cases, deaths and invalids under each heading, and to show further the percentage of each cause to the total, comparing 1935 with the two preceding periods.

(ii) In 1935, disease constituted 82·2 per cent. and injuries 17·8 per cent. of the total sickness compared with 80·5 and 19·5 per

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cent. in 1934 and averages of 81·8 and 18·2 per cent. and 85·3 and 14·7 per cent. respectively over the two preceding periods. It will thus be observed that disease and injury as causes of sickness have remained in fairly constant proportion. As in previous years, " other diseases due to infection " show the highest percentage of total sickness. Excluding injuries, " diseases of the digestive system " was the second highest cause of sickness in 1935 as also in the two preceding periods. There was an increase in the number of cases due to influenza from 390 in 1934 to 434 in 1935, diseases of the respiratory system (excluding tuberculosis and pneumonia) from 290 to 370, pneumonia from 43 to 62 and diseases of areolar tissue and skin from 666 to 773.

The case incidence of malaria shows a decrease from 373 cases in 1934 to 286 in 1935, phlebotomus fever from 283 to 255 and dysentery from 156 to 68.

The percentage of disease due to venereal disease in 1935 was 2·4, a fall of 0·1 per cent. as compared with 1934.

8. The figures shown in table II, page 21, regarding deaths and invalids are commented upon separately under these headings in this chapter.

9. (i) Table III, page 22, analyses, for 1935 and the two preceding periods, the incidence of sickness and the average duration of each case in days by groups of diseases and injury groups. This table further divides these incidences as they occur in the total force and the force at home and abroad.

The incidence of sickness due to disease was 321·7 in 1935 as compared with 320·3 per 1,000 in 1934, and average incidences for the two preceding periods of 347·9 and 402·6 per 1,000 respectively. Apart from the figures for " diseases caused by infection," in which the incidences for home were somewhat higher and those for abroad somewhat lower than for 1934, the detailed incidences for disease show little variation in 1935 as compared with 1934.

The incidence of injuries fell in 1935 to 69·8 as compared with 77·7 per 1,000 for 1934 and average incidences of 77·6 and 69·5 per 1,000 for the two preceding periods.

(ii) During 1935 the average duration for cases of disease was 17 days as compared with 17 in 1934 and 17 and 18 days for the two preceding periods. The injury group, with 19 days as an average duration, shows no variation from 1934 and compares with averages of 21 and 20 respectively for the two preceding periods.

Fleet Air Arm

10. The incidence rates of sickness, deaths and invalidings of the Fleet Air Arm are liable to fluctuate considerably as the total strength, 1,029, is small. The incidence of all cases of sickness was

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544 per 1,000 of strength compared with 334 for 1934 and 684 per 1,000 for the period 1927–34. Excluding 48-hour cases, the sickness incidence increased to 400 per 1,000 in 1935 from 281 in 1934 and compares with an average incidence of 377 per 1,000 for the period 1927–34. There was a decrease in the incidence of deaths from 5·4 per 1,000 in 1934 to 4·9 in 1935; the death rate for the period 1927–34 was 7·0 per 1,000. The final invaliding rate was 1·0 per 1,000 in 1935 as compared with 3·2 in 1934 and 3·5 per 1,000 for the period 1927–34. These incidences compare favourably with the final invaliding rate for the total force of 4·8 per 1,000 for 1935. The incidence of invalids from abroad in 1935 was markedly increased to 30·1 per 1,000 as compared with 19·8 in 1934. This figure corresponds to the average incidence of 19·9 per 1,000 for the period 1927–34. The invaliding rate from abroad for the total force was 19·9 in 1935 and 14·9 per 1,000 over the period 1928–34.

Including 48-hour cases, the number of sick daily was 18·4 per 1,000 in 1935, compared with 14·0 in 1934 and 18·4 for the period 1927–34; the average duration of each case in days was 12 in 1935 compared with 15 in 1934 and 10 for the period 1927–34; and the average number of days' sickness per head was 6·7 in 1935, compared with 5·1 in 1934 and 6·7 for the period 1927–34. If cases of not more than 48 hours are excluded, the constantly sick incidence was 17·8 per 1,000 in 1935 compared with 13·7 in 1934 and 17·3 for the period 1927–34; the average duration of each case in days was 16 in 1935, 18 in 1934 and 17 for the period 1927–34; and the average number of days' sickness per head was 6·5 in 1935, 5·0 in 1934 and 6·3 days for the period 1927–34.

Invalidings

11. *General.*—Table I, page viii, analyses the final invalidings and invalidings to the United Kingdom for the year 1935 and also average incidences for the periods 1928–34 and 1921–27. Table II, page 21, shows the final invalidings by disease and injury groups, stating the number of cases and the percentage of the total attributable to each group during 1935 and also the average percentages for the two preceding periods. Table XII, page 32, analyses, for 1935 only, the incidence of final invalids by disease and injury causes, and further shows the incidence of invalidings to the United Kingdom from abroad. The invaliding incidences for the Fleet Air Arm are analysed in para. 10.

12. *Invalids from commands abroad to the United Kingdom.*—(i) Invalidings to the United Kingdom in 1935 totalled 196—33 officers and 163 airmen. This was an increase in the invaliding rate—19·9 per 1,000 as compared with 13·8 in 1934, and compares with the invaliding rates of 14·9 and 22·8 per 1,000 for the two preceding periods. This increase was chiefly due to the number invalided as a result of the Quetta earthquake.

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(ii) Figures for the groups of diseases normally accounting for the majority of the invalidings to the United Kingdom are shown below. The comparative invalidings for these groups of diseases during 1934 and 1933 are also shown.

	1935.		1934.		1933.	
Injuries	44		9		11	
Diseases of the nervous system and brain—						
Epilepsy	3		3		—	
Psychoneurosis	20	39	7	19	15	25
Mental diseases	5		3		5	
Others	11		6		5	
Diseases of the digestive system ..	14		13		12	
Diseases of the respiratory system (excluding tuberculosis and pneumonia)	11		6		10	
Diseases of circulation	10		8		7	
Tuberculosis—						
Pulmonary	5	7	13	16	15	18
Other forms	2		3		3	
Diseases of organs of locomotion ..	7		10		5	
Diseases of the ear and nose—						
Chronic suppurative otitis media	2	6	4	7	6	10
Others	4		3		4	

During 1935 these disease groups accounted for 138 invalidings out of a total of 196.

The total strength abroad was 656 greater than that in 1934.

(iii) Of the 33 officers invalided to the United Kingdom, 28 were invalided on account of disease and the remaining five on account of recent injuries, of which two were caused by flying accidents. Of the 163 airmen invalided, 124 were on account of disease (including 7 as the result of old injury), and the remaining 39 were due to recent injuries, of which one was caused by a flying accident.

(iv) The 196 invalidings to the United Kingdom were from the following areas :—

	Officers.	*Airmen.*	*Total.*
Iraq	3	56	59
Egypt	6	30	36
India	10	46	56
Aden	2	15	17
Palestine	3	4	7
Fleet Air Arm	7	4	11
Malta	1	2	3
Far East	1	6	7
Total	33	163	196

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Of the invalidings from India, a total of 51, 7 officers and 44 airmen, were directly due to the Quetta earthquake.

(v) Of the 33 officers invalided to the United Kingdom, 24 were returned to duty during the year, and the remaining 9 were still under treatment at the end of the year. None of these officers died or was finally invalided during the year. Of the 163 airmen, 125 were returned to duty, 2 died, 20 were finally invalided from the service and 16 remained under treatment.

13. *Final invalids.*—(i) One hundred and seventy cases, consisting of 5 officers and 165 airmen, were invalided out of the service in 1935, representing an incidence of 4·8 per 1,000 compared with 155 giving an incidence of 5·1 per 1,000 in 1934 and average incidences of 6·4 and 9·9 per 1,000 for the two preceding periods respectively. In 1935, disease as distinct from injury was responsible for 92·9 per cent. of final invalids. This figure compares with 96·1 in 1934, 92·0 in 1933, 93·6 in 1932 and average percentages of 92·4 and 94·5 over the two preceding periods. It will thus be noted that disease and injury as a cause of final invaliding bear a fairly constant proportion each year. In each period under review the greatest percentage of final invalidings was due to diseases of the nervous system and brain—27·1 per cent. in 1935, compared with average percentages of 29·0 and 24·7 in the two preceding periods—with tuberculosis occupying second place—15·3 per cent. in 1935 compared with averages of 15·0 and 13·5 per cent. over the two preceding periods. Injuries were responsible for 7·1 per cent. of final invalidings in 1935 compared with percentages of 3·9 in 1934, 8·0 in 1933 and average percentages of 7·6 and 5·5 over the two preceding periods.

(ii) The chief causes of final invalidings in 1935 are analysed below and the figures compared with those for 1934 and 1933 :—

	1935.		1934.		1933.	
Diseases of nervous system and brain—						
Mental diseases	15		15		21	
Epilepsy	12		12		8	
Psychoneurosis	12	46	21	55	24	66
Others	7		7		13	
Tuberculosis—						
Pulmonary	24		27		35	
Other forms	2	26	3	30	3	38
Diseases of ear and nose—						
Chronic suppurative otitis media	10		7		4	
Others	4	14	1	8	1	5
Injuries—						
Fractures	9		1		8	
Wounds	—	12	1	6	5	15
Others	3		4		2	

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	1935.		1934.		1933.	
Acute rheumatism	11		2		7	
Diseases of urinary organs	11		6		3	
Diseases of organs of locomotion—						
Diseases of the bone	4		2		7	
Diseases of the joints	4	10	2	7	3	11
Deformities of limbs	2		3		1	
Diseases of respiratory system (excluding pneumonia and respiratory tuberculosis)	8		6		5	
Diseases of digestive system	7		4		11	
Diseases of heart—						
Disordered action	4		2		—	
Valvular	2	6	3	11	4	4
Endocardial	—		6		—	
Myocardial	—		—		—	
Diseases of eye	5		9		15	

As in previous years pulmonary tuberculosis was the most frequent cause of invaliding from the service, but the figures for this disease show a small decrease from those of 1934 in spite of the fact that the total strength of the force in 1935 was 4,474 greater than that in 1934. Other observations of note are the decrease for diseases of the nervous system and brain and increases for acute rheumatism and diseases of the ear and nose.

(iii) Of the final invalidings, the five officers were invalided as a result of old injury, and 148 airmen on account of disease (including 5 as the result of old injury as distinct from recent injury). Twelve airmen were invalided from the service on account of recent injury.

Deaths

14. Table I, page viii, analyses all deaths, by numbers and incidences per 1,000 of strength, in geographical areas, for the year 1935 and the two preceding periods. Table II, page 21, analyses for the same year and periods all deaths by groups of disease and injury, showing for each group the percentage of the total deaths. Table XII, page 32, further analyses by numbers, for 1935 only, all deaths by disease and injury causes, showing those occurring in the force at home and abroad, and those for the total force. The figures in respect of deaths in the Fleet Air Arm have already been commented upon in para. 10.

15. (i) There were 167 deaths in the total force during 1935, an incidence of 4·8 per 1,000 of strength, compared with 94 deaths and an incidence of 3·1 per 1,000 in 1934 and average incidences of 3·8 and 4·3 per 1,000 for the two preceding periods.

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(ii) Of the total of 167 deaths, 128 (or 77 per cent.) occurred as the result of injury, compared with 58 (or 62 per cent.) in 1934, and 39 (or 23 per cent.) from disease, compared with 36 (or 38 per cent.) in 1934.

(iii) The causes of the 39 deaths from disease were as follows:—

Septicaemia	4
Pneumonia	4
Cerebro-spinal meningitis	3
Malignant growths	3
Endocarditis	2
Malaria	2
Nephritis	2
Pulmonary tuberculosis	2
Acute mastoiditis	1
Appendicitis	1
Carbon monoxide poisoning	1
Cerebral abscess	1
Cirrhosis of liver	1
Duodenal ulcer	1
Dysentery	1
Empyema	1
Encephalitis lethargica	1
Enteric group	1
Epilepsy	1
Gastro-colic fistula	1
Infarct of lung	1
Intestinal obstruction	1
Pyaemia	1
Splenic anæmia	1
Tetanus	1

Pneumonia, as in previous years, was one of the chief individual causes of death from disease as distinct from injury.

16. (i) The 167 deaths occurred among the following personnel at home and abroad.

	Home.	*Abroad.*	*Total.*
Officers	19	12	31
Flight cadets	1	—	1
Apprentices and boys	5	—	5
Other airmen	49	81	130
Total	74	93	167

(ii) At home, 74 deaths occurred, representing an incidence of 2·9, compared with 63 deaths and an incidence of 2·9 per 1,000 in 1934 and average incidences of 3·6 and 3·2 for the two preceding periods.

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(iii) Abroad, 93 deaths occurred, representing an incidence of 9·4 in 1935, compared with 31 deaths and an incidence of 3·4 in 1934 and average incidences of 4·4 and 7·2 per 1,000 for the two preceding periods. Considering the death incidence by geographical areas abroad, the marked increase of the incidence in India from 0·5 to 30·4 per 1,000 in 1935, has to be noted and compared with the incidence of 3·4 per 1,000 for the force abroad. This increase was a result of the earthquake at Quetta. The death incidence for the other geographical areas, comparing 1935 with 1934, shows little change except for Iraq, where there was a decrease to 4·5 from 5·4 per 1,000 of strength.

17. (i) Of the 31 officers who died, 3 died on account of disease and the remaining 28 on account of injuries.

(ii) Of the 3 officers who died as the result of disease, one died as the result of disease contracted abroad.

(iii) Of the 28 officers who died as a result of injury, 17 died at home and 11 abroad. Sixteen deaths at home and 6 abroad were due to flying accidents on duty. The causes of the remaining 6 deaths due to injury among officers were :—one due to drowning at home, one as a result of a civil aeroplane accident abroad, one as a result of wounds received during air action abroad, one airscrew accident, one due to earthquake and one suicide.

18. One flight cadet died as the result of a flying accident on duty.

19. Three apprentices or boys died as the result of disease and 2 as the result of injury. Of the latter, one died as the result of injury sustained during an organised game and the other was accidentally shot on a rifle range.

20. (i) Of the 130 deaths which occurred among airmen other than apprentices and boys, 34 were the result of disease and 96 on account of injury. Injury was thus responsible for 74 per cent. of the deaths among all airmen. Of the 34 deaths from disease, 15 occurred at home and 19 abroad, while 34 of the 96 deaths resulting from injury occurred at home and the remaining 62 abroad.

(ii) Of the 96 deaths from injury, 17 (15 at home and 2 abroad), were due to flying accidents. All the airmen were on duty at the time of the accidents. Of the remaining 79 deaths due to injury among airmen, 19 occurred at home and 60 abroad. Of the 19 deaths at home, 12 were due to motorcycle accidents, 2 to pedal cycle accidents, 3 to suicide, and 2 as a result of drowning while bathing. None of these airmen was on duty. Of the 60 deaths abroad, 51 were due to the Quetta earthquake, 2 to a bomb explosion, one to a wound while flying on active service, one to an accident while dismantling an aircraft, one to an airman being hit by an aircraft, one to an accident on board an aircraft carrier, one to an organised game, one to heat hyperpyrexia and one to a motor accident. All the airmen except the last were on duty.

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Pulmonary Tuberculosis

21. (i) Table IV, page 23, analyses all fresh cases of pulmonary tuberculosis which arose during 1935 by age, trade group, length of service, and groups of units.

(ii) Twenty-four fresh cases of pulmonary tuberculosis, 2 officers and 22 airmen, were recorded in 1935 compared with 29 in 1934, 35 in 1933, and 39 in 1932, representing incidences per 1,000 of strength of 0·7 in 1935, 0·9 in 1934, 1·1 in 1933 and 1·2 in 1932.

(iii) Of these 24 cases in 1935, 19 occurred at home, and 5 abroad, and the incidences per 1,000 were 0·7 both at home and abroad. There were no deaths among fresh cases during the year under review.

22. In addition to the fresh cases, there were 8 cases of pulmonary tuberculosis, which came under treatment in 1935 but were diagnosed previous to that year. Of the 24 fresh cases, 18 were invalided from the service, one, a naval officer, was restored to naval establishment, and 5 were remaining under treatment at the end of 1935. Of the 8 cases remaining under treatment from 1934, 2 died and the remaining 6 were invalided from the Service during 1935, making a total of 24 final invalids for this disease during the year. Of these 24 invalids, 19 were serving at home and 5 abroad at the date when the disease was first diagnosed.

23. (i) In 4 of the 24 fresh cases there was a definite family history of pulmonary tuberculosis. Of the 19 cases which occurred at home, 9 had served abroad in tropical or semi-tropical countries and 4 of these showed a previous history of tropical disease. Of the 14 cases with oversea service, 3 had a history of tropical disease.

(ii) Of the fresh cases, the tubercle bacillus was found in the sputa of all except one which was diagnosed by means of positive X-ray and clinical findings.

Venereal Disease

24. (i) An analysis of the incidence of the various forms of venereal disease at home and abroad, and for the whole force during 1935 is given in table VI, page 25. This table also shows the incidences for total venereal disease for each year from 1921.

(ii) Compared with 1934 the incidence of all venereal diseases in 1935 fell to 9·5 from 9·9 per 1,000 of strength. This figure is the lowest incidence of venereal disease yet recorded in the Royal Air Force, a fall of 0·4 per 1,000 below the previous lowest incidence. There was a decrease in the incidence of all fresh types of venereal disease in 1935, and the figure for acute gonorrhoea was 7·0 per 1,000 in 1935 as compared with 7·4 per 1,000 in 1934. As noted in all previous health reports for the Royal Air Force, the incidences of all types of venereal disease occurring abroad were markedly higher than at home. In 1935, the average number of sick daily for all

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venereal diseases was 25·2 at home and 34·5 abroad compared with 22·8 at home and 30·7 abroad for 1934, while the average duration of each case in days for the whole force in 1935 was 65, the same as for 1934.

(iii) The following figures compare the number of days' sickness per head due to venereal disease in certain geographical areas. The figures for 1934, 1933, 1932 and 1931 are given for comparison.

	Average No. of days' sickness per head.				
	1935	1934	1933	1932	1931
Home	0·4	0·4	0·5	0·5	0·7
India	0·3	0·4	0·6	0·4	0·8
Mediterranean Littoral ..	1·1	0·9	1·2	1·2	1·3
Iraq	1·4	1·8	1·1	1·3	1·7
Total Force	0·6	0·6	0·7	0·7	0·9

Age Groups

25. Table V, page 24, gives an analysis of sickness incidence, sub-divided into disease and injury, in the total force, and in the force at home and abroad, by age groups in the case of airmen, and by officers and cadets. The youngest group, apprentices and boys, serves at home only and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of the numbers if divided into age groups.

26. (i) The incidence of all disabilities for all units shows that the airmen group is larger at 394 per 1,000 than the officers and cadets group at 374 per 1,000; this compares with the incidences of 402 and 369 for the year 1934. This difference is accounted for by the incidence of disease being lower at 294 per 1,000 for the officers and cadets group than in the airmen group at 325 per 1,000; on the other hand, the incidence of injury is higher in the officers and cadets group than in the airmen group, the figures being 80 and 69 per 1,000 respectively.

(ii) In analysing the incidence of all disabilities among the age groups of airmen, it is observed that the highest incidence is recorded among the younger age groups, and the four lowest incidences are in the four oldest age groups. The figures for units at home show that the lowest incidence is in the age groups 30–34 and 35–39, while the incidence of all disabilities abroad is lowest in the two oldest age groups. For disease, the lowest incidence at home and abroad is in the 30–34 and 28–29 age groups, while injury, both at home and abroad, is lowest in incidence for the two oldest age groups.

(iii) In comparison with 1934, the disease incidence for each group at home shows minor variation for 1935 except for airmen

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under 18, where the increase first noted in 1933 continues, the incidences for 1935, 1934, 1933 and 1932 being 965, 785, 594 and 493 per 1,000 respectively, and for the 18–19 age group where the disease incidence fell from 376 to 306. Abroad, all the principal age groups show lower disease rates than in 1934, particularly the age groups 20–21, 26–27 and 28–29. The incidence of disease in all age groups of airmen and for the officers and cadets group is lower at home than abroad, and this fact also applies to all the airmen age groups for the incidence of injury. The case incidence of injuries for officers was practically the same at home as abroad. The injury incidence for all airmen was greatest in the 22–23 and 24–25 age groups. Comparing 1935 with 1934, the injury incidence at home and abroad in each group shows little variation except for the age groups under 18, 18–19 and 20–21, all of which show a marked decrease on the figures for 1934.

Sickness in Various Groups of Units

27. Table VIII, page 28, analyses the incidence of sickness, sub-divided into disease and injury in the total force and in the force at home and abroad, by different groups of units.

28. (i) As in 1934 it is noted that the total sickness incidence in " flying " units is lowest, the disease incidence being markedly so—248·0 compared with 398·6 and 370·3 per 1,000 for " depôts " and " miscellaneous " units respectively, while the injury incidence is highest in " flying " units with little divergence in incidence between " depôts " and " miscellaneous " units. The incidence of deaths, as expected, is highest in " flying " units, 6·5 per 1,000, and is chiefly due to injury causes, with an incidence of 5·8, compared with 0·7 per 1,000 for disease. This compares unfavourably with the figures for 1934 which were 3·7, 2·9 and 0·8 per 1,000 respectively. For 1935, however, these increased injury incidences are mainly due to the Quetta earthquake. The incidence of invalidings from the service is highest in " miscellaneous " units at 5·4, compared with 4·8 per 1,000 for all units. The average duration of each case in days shows little variation comparing the different groups of units.

(ii) Comparing the incidences in the groups of units at home, the total sickness incidence is lowest in " flying " units at 243·1 per 1,000, compared with 381·9 and 484·5 per 1,000 for " miscellaneous " units and " depôts " respectively. The incidence of disease shows the same order with 178·7 for " flying " units, 320·3 for " miscellaneous " units and 424·7 per 1,000 for " depôts." " Flying " units record the highest injury incidence at 64·4 compared with 61·6 for " miscellaneous " units and 59·8 per 1,000 for " depôts." This incidence of 59·8 compares favourably with the incidences for 1934, 1933, 1932 and 1931 which were 93·8, 90·3, 80·0 and 71·9 respectively. The death incidence at home was 3·4 in " flying " units compared with 3·4 and 1·6 per 1,000 in " miscellaneous " units and

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" depôts " respectively. The incidence of 3·4 in " flying " units is mainly due to the death incidence on account of injuries at 2·9 per 1,000. This death incidence due to injuries of 2·9 for " flying " units compares with 0·9 at " depôts " and 2·0 per 1,000 at " miscellaneous " units and incidences of 3·1, 0·8 and 1·3 respectively for 1934.

(iii) Abroad, the total sickness incidence was lowest at " depôts " with 408·9 per 1,000 and highest at " miscellaneous " units with 590·4 per 1,000. As in 1934, " flying " units recorded the highest injury incidence of the different groups of units, the highest death incidence, chiefly consisting of deaths from injury, and the highest incidence of invalidings from the service. Comparing the different groups of units the average duration of each case in days shows little variation.

(iv) Comparing the figures for home and abroad, the disease incidence abroad in " flying " units is considerably more than double that at home while the injury incidence abroad is rather less than double the home incidence. In " depôts," total sickness incidence, mainly as a result of a difference in the disease incidences, was 75·6 per 1,000 greater at home than abroad. In " miscellaneous " units, the total sickness incidence was 590·4 abroad, compared with 381·9 per 1,000 at home and the disease incidences were 506·7 and 320·3 per 1,000 abroad and at home respectively. The injury incidence was 83·7 abroad, compared with 61·6 per 1,000 at home.

Trade Groups

29. Table IX, page 29, analyses by trade groups the incidences of sickness, divided into injury and disease, and the latter further sub-divided into the groups of diseases which are usually the cause of the bulk of medical non-effectiveness.

30. (i) For 1935, " apprentices and boys " show the highest all disabilities incidence with 854·8 per 1,000 followed by the " drivers and open-air workers," and " metal workers " groups with 459·5 and 434·8 per 1,000 respectively. In 1934 also the highest disability incidences were recorded in the " apprentices and boys " and " drivers and open-air workers " groups. In 1935 the high incidence among " apprentices and boys " was mainly the result of the high incidences for upper air passage infections, 514·2, and " all other diseases," 227·9 per 1,000. The incidence for influenza of 8·4 per 1,000 compares with 12·4 per 1,000 for the total force. As compared with 1934 the total disability incidence for " apprentices and boys " increased by 107·1 per 1,000; this was caused chiefly by a rise of 246·3 per 1,000 in the incidence of infections of the upper air passages. This very large increase of upper air passage infections is partially offset by a decreased incidence, as compared with 1934, for influenza of 11·9, for digestive diseases of 36·0, and for all injuries of 57·9 per

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1,000. In 1935 the incidence of venereal disease for " apprentices and boys " was nil. The lowest all disabilities incidence is recorded by the " fitters " group with 311·5 followed closely by the " other skilled workers " group with 337·8 per 1,000.

(ii) Injuries are, to a large extent, evenly divided among the various groups and the rate for " apprentices and boys " has dropped to 57·3 per 1,000 as compared with 115·2, 100·3, 67·4 and 43·8 per 1,000 in 1934, 1933, 1932 and 1931. The highest incidences for all injuries are in the " drivers and open-air workers " group, viz. :— 88·0, followed by the " metal workers " group with 87·8 per 1,000. As in 1934 the " other skilled workers " group records the lowest of all injuries incidence with 52·3 per 1,000, the " clerks and office workers " group occupying the second lowest place with an incidence of 55·3 per 1,000.

(iii) " Apprentices and boys " record the highest all diseases incidence with 797·5 per 1,000, compared with a lowest incidence of 238·1 per 1,000 for the " fitters " group. In the disease groups, the incidence of influenza for the total force is practically unchanged, the highest incidence being noted in the " officers, cadets and airman pilots " group at 24·0 per 1,000, as compared with the figure 23·1 for 1934; the lowest incidences for this disease were in the " apprentices and boys " and " fitters " groups at 8·4 and 8·9 per 1,000 respectively. The incidence for upper air passage infections, as noted each year, is highest in the " apprentices and boys " group, the figure in 1935 being 514·2 per 1,000 as compared with 94·0 per 1,000 for the total force. As in former years, the low venereal disease incidence of the " officers, cadets and airman pilots " group is noticeable : the highest incidence is shown in the " metal workers " group, followed by the " drivers and open-air workers " group. For respiratory diseases the " apprentices and boys ", " aircraft hands " and " metal workers " groups show the highest incidences with 15·9, 13·3 and 13·2 per 1,000 respectively, and the " wireless operators, riggers and armourers " group, the lowest with 7·0 per 1,000 which compare with 10·5 per 1,000 for the total force. With regard to digestive diseases, " fitters," " aircraft hands " and " metal workers " show the lowest incidences at 25·8, 29·0 and 29·3 per 1,000 respectively, as compared with 32·3 for the total force. The highest incidences were in the " officers, cadets and airman pilots " and " drivers and open-air workers " groups with 41·8 and 40·8 per 1,000 respectively.

Injuries

31. Table X, page 30, analyses injuries under the heading " nature of injury " and also injuries and deaths from injury, with regard to whether they occurred on or off duty or from participation in games organised by the service. Medical non-effectiveness due to the following :—Effects of heat—17 cases; the physical effects of

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heat, cold or electricity, i.e., sunburn—12 cases; frost bite—one case; and disability due to ill-fitting boots—5 cases, are not considered cases of injury for the purpose of this analysis.

32. (i) The number of cases of injury of all types, excluding those mentioned above, occurring during 1935 was 2,416, representing an incidence of 69 per 1,000 of strength, as compared with 77 per 1,000 in 1934 and 80 per 1,000 in both the years 1933 and 1932. Five hundred and fifty-nine cases of injury occurred definitely on duty, and in addition there were 898 cases of injury due to participation in games and athletics organised by the service. Thus, 60 per cent. of all accidents were due to these two classes of injury during 1935, compared with 58 in 1934 and 1933, 56 in 1932, and 60 in 1931.

(ii) There were 127 deaths resulting from injury, 52 being due to the earthquake at Quetta, compared with 58 deaths in 1934; 82 per cent. of these deaths occurred on duty, compared with 47 per cent. in 1934. This increase in percentage is due to the fact that the earthquake deaths were regarded as having occurred on duty.

(iii) Twelve individuals were invalided from the service during 1935 as the result of injury, compared with 6 in 1934; at the time of the receipt of the injury one was flying on duty, 2 were swinging airscrews on duty, one was involved in the Quetta earthquake, 7 were involved in motor accidents off duty, and one sustained head injury off duty.

(iv) In 1935, as in past years, the lower extremity is the site of the highest percentage of injuries, 51 per cent., compared with 52 per cent. in 1934.

33. *Injuries sustained in flying accidents.*—(i) Table XI, page 31, analyses flying casualties on duty for the years 1932 to 1935, inclusive. It shows the numbers killed and injured divided into officers, cadets and airmen, and also the average duration of each case in days.

(ii) As a result of accidents while flying on duty, there were 98 casualties in 1935, compared with 74 in 1934; or a percentage of 4·0 of all injuries analysed as compared with 3·2, 4·5 and 4·9 in 1934, 1933 and 1932 respectively. There were 2 flying casualties off duty.

(iii) The number of deaths due to accidents while flying on duty in 1935 was 40 as compared with 24 in 1934. Thus, 41 per cent. of the total flying casualties in 1935 resulted in death, compared with 32, 43 and 39 per cent. in 1934, 1933 and 1932 respectively. In 1935, 31 per cent. of the total deaths as a result of injury were due to flying accidents, compared with 41 per cent. in 1934 and 60 per cent. in 1933. During 1935, of the 40 deaths, 22 were officers, one was a flight cadet and 17 were airmen. All the officer casualties were of the general duties branch. Of the 9 airmen killed, 6 were either qualified airman pilots or airmen under training as airman pilots.

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(iv) One airman was invalided from the service as a result of injury received in a flying accident.

(v) Of the total of 58 injured as a result of flying accidents, 22 were officers of the general duties branch, 3 were flight cadets and 33 were airmen, of whom 7 were either airman pilots or airman pilots under training.

(vi) In 1935, excluding cases which resulted in death, the average duration of each case was 45 days in hospital or sick quarters compared with 54, 45 and 39 days in 1934, 1933 and 1932 respectively.

34. *Injuries caused by airscrews.*—During 1935, there were 11 cases (10 on duty and one off duty) of injuries caused by airscrews, compared with 21, 13 and 15 cases in 1934, 1933 and 1932 respectively. There was one death, and two cases were invalided as a result of injuries received. Ten of the 11 cases received the injuries while handling airscrews, and the remaining case walked into a revolving airscrew and was killed.

35. *Injuries sustained while starting motor engines.*—During 1935, 18 cases of injury from this cause occurred compared with 28 in 1934, 23 in 1933 and 27 in 1932, and 13 of the cases occurred on duty. There were no deaths or invalidings. These cases exclude those referred to in the previous paragraph.

36. *Injuries, the result of motor accidents.*—(i) There were 291 cases of injury resulting from motor accidents during 1935, as compared with 349 in 1934, 448 in 1933 and 468 in 1932, while the percentage of injuries due to this cause of the total injuries was 12 as compared with 15 in 1934 and 18 in 1933 and 1932. Of the 291 cases, 22 only occurred on duty. There were 13 deaths, all of which occurred on duty, and 7 cases were invalided from the service. None of the invalids was on duty when the accident occurred. The numbers of deaths and invalidings from the service as a result of injuries received in motor accidents for the years 1932 to 1935 inclusive were as follows :—

	1935.	1934.	1933.	1932.
Deaths	13	18	20	21
Invalids	7	4	9	12

(ii) Injuries resulting from motor accidents are further analysed by the four following groups :—

(*a*) *Motor cycles—occupants.*—During 1935, 184 cases, or approximately 63 per cent. of all motor accidents resulting in injury and 8 per cent. of all injuries, occurred to occupants of motor cycles as compared with 67 and 10 per cent. respectively for 1934. Of the 184 cases 5 were on duty. Twelve deaths, all occurring off duty, resulted, and there were 5 invalidings, also the result of accidents off duty. In 1934, the corresponding numbers were 9 deaths and 3 invalidings. There was, therefore, an increase in the wastage of personnel on account of this cause in 1935.

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(*b*) *Motor cars—occupants.*—Seventy-six cases of injury due to this cause, 2 being on duty, occurred during 1935 compared with 82 in 1934. There was one death and 2 invalidings, all as the result of accidents off duty, as compared with 5 deaths and no invalidings in 1934. Thus, a decrease in the wastage of personnel resulted from this cause in 1935.

(*c*) *Lorries or tenders—occupants.*—Of a total of 17 cases injured owing to this cause in 1935, 13 were on duty, as compared with 14 and 11 for 1934. There were no invalids or deaths.

(*d*) *Motor vehicles, all types—non-occupants.*—There were 14 cases of injury to non-occupants of the vehicles by motor vehicles in 1935, compared with 20 in 1934. Two cases only were on duty and there were no invalids or deaths as a result of injury from this cause.

37. *Injuries sustained in athletics, games and physical recreation.*—During 1935, 1,113 cases of injury were due to athletics, games and physical recreation, an incidence of 32 per 1,000 of strength, compared with 1,148, 1,214 and 1,189 cases and incidences of 37, 39 and 37 per 1,000 in 1934, 1933 and 1932 respectively. There were 2 deaths in organised games and 2 deaths off duty as a result of injuries received in games not organised by the service. There were no invalidings. Of the 1,113 cases, 898 or 37 per cent. of the total injuries and 81 per cent. of injuries received in games, occurred in organised games. Football was responsible for the major number of the cases, i.e., 722 or 80 per cent., an increase of 10 per cent. as compared with the figure for 1934. The most common injuries received playing this game were synovitis of knee, 174 cases, and sprained ankle, 128 cases.

38. *Wounds in action.*—There were two deaths as a result of wounds received during air action.

39. *Accidental gunshot wounds.*—In 1935, 13 cases occurred, compared with 5 cases in 1934. Ten cases were on duty, of whom 3 died, 2 off duty, and one on leave. There were no invalids.

40. *Injuries, the result of voluntary parachute descents.*—There was one case of injury due to this cause. Injuries received in emergency parachute descents are classified as flying accidents and are included in the figures in para. 33.

41. *Injuries sustained in workshops.*—Twenty-two cases of injury were reported in 1935, compared with 33 in 1934. All were on duty and there were no deaths or invalidings.

42. *Other causes of injury.*—Eight hundred and eighty-three cases of injury which do not fall within the categories detailed in the preceding paragraphs, occurred during 1935, compared with 675 in 1934, an increase largely due to the Quetta earthquake. Of the 883 cases, 416 occurred on duty, 393 off duty and in 74 cases this information was incomplete in detail. Of the cases on duty, 61 resulted in death, while 7 deaths occurred off duty. There were 4 cases of suicide and 11 cases of injury off duty due to " fights."

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Nosological Tables

43. Table XII, page 32, is the chief nosological table of the report and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad, and as a whole. Certain diseases and injuries marked with an asterisk in this table are responsible for the majority of the total sickness and are analysed in greater detail in table VII, page 26, by geographical areas and for the total force. Table VII also serves to indicate the relative incidence of tropical diseases in areas abroad. The figures for the Fleet Air Arm, which were shown as a separate entity in table I, page viii, are included in the home and abroad figures as appropriate in tables VII and XII. The heading " no appreciable disease " includes all cases, except mental and epileptic, which were admitted to hospital or sick quarters for observation, and in which no confirmation of disease or injury was made.

44. (i) The principal causes of medical non-effectiveness, with the average number of sick daily due to each cause, are shown below, and the figures for 1935, 1934, 1933 and 1932 are inserted for comparison :—

	Average number of sick daily.			
	1935.	1934.	1933.	1932.
Injuries	127·8	124·0	133·0	144·6
Gonorrhoea	51·9	45·5	47·6	51·3
Upper air passage infections (excluding tonsillitis) ..	40·9	24·4	21·6	21·0
Tonsillitis, acute	29·8	25·2	23·7	22·2
Inflammation of areolar tissue (includes abscess, boils, carbuncle, cellulitis)	20·1	20·1	21·3	21·1
Appendicitis	17·0	16·7	18·2	21·1
Malaria	13·3	15·9	17·0	10·5
Urethritis (non-venereal) ..	10·9	7·2	9·3	9·1
Diseases of joints	10·8	10·5	10·3	11·3
Influenza	9·8	9·7	37·9	19·8
Otitis media, acute	9·4	3·2	3·4	2·8
Enteritis acute, and gastro-enteritis	8·1	8·7	7·0	7·0
Bronchitis	8·1	6·4	7·8	8·7
Scarlet fever	7·9	2·8	1·3	5·7
Venereal disease (excluding gonorrhoea)	7·8	8·0	9·4	8·6
Psychoneurosis	7·3	5·7	6·4	5·7
Dysentery	7·2	11·1	4·5	4·9
Impetigo contagiosa ..	6·6	5·0	6·7	8·2
Hypertrophy of tonsils ..	5·9	7·9	7·1	7·7
Phlebotomus fever	5·4	5·7	8·3	9·0
Tuberculosis (all forms) ..	4·7	9·9	9·1	8·5

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(ii) During 1935, injuries and gonorrhoea were the chief causes of disablement. The numbers constantly sick on account of gonorrhoea, upper air passage infections (excluding tonsillitis), acute otitis media and scarlet fever show marked increases, while those for dysentery and tuberculosis (all forms) show notable decreases on those for 1934. The average number of sick daily otherwise varies little as compared with the figures for 1934.

45. The following table compares the medical non-effectiveness in the various geographical areas by showing the average number of days' sickness per head, comparing 1935 with 1934.

	Average Number of Days' Sickness per Head (including cases of not more than 48 hours' duration).	
	1935.	1934.
United Kingdom	5·9	6·1
Mediterranean Littoral	8·9	8·8
India	8·6	7·7
Iraq	14·0	14·9

As in previous years Iraq appears to be the most unhealthy area and the United Kingdom the most healthy. Venereal disease as a cause of medical non-effectiveness in the various geographical areas is commented upon in para. 24, page 10.

46. (i) The following table records the chief causes of medical non-effectiveness by showing the average number of sick daily in the force at home and abroad.

	Average number of sick daily (excluding cases of not more than 48 hours' duration).	
	Home.	*Abroad.*
Injuries	85·4	42·4
Upper air passage infections (excluding tonsillitis) ..	36·1	4·9
Gonorrhoea	23·6	28·3
Tonsillitis, acute	22·3	7·5
Appendicitis	8·7	8·3
Influenza	7·1	2·7
Malaria	1·0	12·3
Venereal disease (excluding gonorrhoea)	1·6	6·2
Phlebotomus fever	—	5·4

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(ii) At home, as can be seen in the table above, the two principal causes of medical non-effectiveness, shown by the average number of sick daily, were injuries and upper air passage infections (excluding tonsillitis), the figure for the latter having risen from 17·4 in 1934 to 36·1 in 1935. The figure for acute tonsillitis also shows an increase from 16·6 in 1934 to 22·3 in the year under review.

(iii) Abroad, the chief causes of medical non-effectiveness were injuries and gonorrhoea; apart from an increase in the figure for injuries and a decrease for upper air passage infections, there is little variation from the same table as shown in the report for 1934.

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1935.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1935.	1928–34.	1921–27.	1935.	1928–34.	1921–27.	1935.	1928–34.	1921–27.
Dysentery	68	1	—	0·5	*0·6*	*1·3*	0·6	*0·5*	*0·3*	—	—	*0·1*
Enteric group ..	9	1	—	0·1	*0·2*	*0·2*	0·6	*1·4*	*2·4*	—	—	—
Influenza	434	—	—	3·2	*7·0*	*6·0*	—	*0·2*	*0·1*	—	—	—
Malaria	286	2	—	2·1	*3·6*	*7·4*	1·2	*0·7*	*1·2*	—	—	*0·2*
Pneumonia	62	4	1	0·4	*0·4*	*0·5*	2·4	*3·0*	*4·9*	0·6	*0·1*	—
Pyrexia of unknown origin	75	—	—	0·5	*0·3*	*0·6*	—	—	*0·1*	—	—	—
Phlebotomus fever ..	255	—	—	1·9	*3·1*	*6·8*	—	—	—	—	—	—
Tuberculosis ..	27	2	26	0·2	*0·3*	*0·3*	1·2	*2·5*	*3·9*	15·3	*15·0*	*13·5*
Venereal diseases ..	333	—	1	2·4	*3·2*	*5·0*	—	—	—	0·6	*0·4*	*0·9*
Pyaemia and septicaemia	8	5	1	0·0	*0·0*	*0·0*	3·0	*1·7*	*2·2*	0·6	—	—
Other diseases due to infection	5,031	5	12	36·6	*29·4*	*25·9*	3·0	*3·4*	*1·5*	7·0	*3·7*	*1·9*
Contacts and carriers (patients in hospital or sick quarters) ..	56	—	1	0·4	*0·7*	*0·3*	—	—	—	0·6	*0·2*	*0·1*
Nervous system and brain	237	4	46	1·7	*1·6*	*1·9*	2·4	*2·0*	*2·2*	27·1	*29·0*	*24·7*
Eye	146	—	5	1·1	*1·1*	*1·1*	—	—	—	2·9	*6·8*	*8·4*
Ear and nose ..	551	—	14	4·0	*2·6*	*1·8*	—	*0·4*	—	8·2	*4·9*	*11·7*
Circulatory system..	106	3	7	0·8	*1·0*	*1·2*	1·8	*3·6*	*2·7*	4·1	*8·8*	*8·0*
Lymphatic system ..	14	—	4	0·1	*0·1*	*0·1*	—	*0·5*	*0·1*	2·3	*1·4*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	370	1	8	2·7	*2·9*	*2·9*	0·6	*0·7*	*0·9*	4·7	*4·2*	*4·0*
Teeth and gums ..	108	—	—	0·8	*0·6*	*0·6*	—	—	—	—	*0·1*	*0·2*
Digestive system ..	1,134	5	7	8·2	*9·4*	*7·8*	3·0	*4·2*	*5·2*	4·1	*3·9*	*3·5*
Disorders of nutrition and metabolism	12	—	2	0·1	*0·1*	*0·0*	—	*0·2*	*0·2*	1·2	*1·3*	*0·6*
Generative system ..	263	—	1	1·9	*2·0*	*1·7*	—	—	—	0·6	*0·3*	*0·1*
Organs of locomotion	424	—	10	3·1	*2·9*	*2·9*	—	—	—	5·9	*7·8*	*10·8*
Areolar tissue and skin	773	—	1	5·6	*5·8*	*6·3*	—	*0·1*	—	0·6	*1·0*	*1·1*
Urinary organs ..	193	2	11	1·4	*1·0*	*0·6*	1·2	*0·8*	*0·5*	6·5	*2·5*	*2·8*
Tumours and cysts..	49	3	—	0·4	*0·4*	*0·6*	1·8	*2·2*	*1·3*	—	*0·9*	*0·4*
Poisons	64	1	—	0·5	*0·4*	*0·3*	0·6	*1·8*	*0·7*	—	—	*0·1*
Debility	38	—	—	0·3	*0·2*	*0·5*	—	—	—	—	—	*0·3*
Other diseases ..	166	—	—	1·2	*0·9*	*0·7*	—	*0·1*	—	—	*0·1*	*0·1*
Total : all diseases ..	11,292	39	158	82·2	*81·8*	*85·3*	23·4	*30·0*	*30·4*	92·9	*92·4*	*94·5*
Total : all injuries ..	2,451	128	12	17·8	*18·2*	*14·7*	76·6	*70·0*	*69·6*	7·1	*7·6*	*5·5*
Total : all disabilities	13,743	167	170	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total Force.			Home.			Abroad.			Total Force.		
	1935.	Average 1928–34	Average 1921–27.	1935.	Average 1928–34.	Average 1921–27.	1935.	Average 1928–34.	Average 1921–27.	1935.	Average 1928–34.	Average 1921–27.	1935.	Average 1928–34.	Average 1921–27.	1935.	Average 1928–34.	Average 1921–27.
Diseases caused by infection ..	168·1	*162·6*	*174·7*	238·0	*312·5*	*463·5*	187·7	*204·6*	*254·9*	13	*14*	*16*	16	*15*	*16*	14	*15*	*16*
Contacts and carriers (patients in hospital or sick quarters) ..	1·9	*3·5*	*1·8*	0·7	*1·4*	*0·8*	1·6	*2·9*	*1·5*	14	*16*	*12*	14	*15*	*17*	14	*16*	*13*
Effects of parasites	0·8	*1·1*	*0·6*	3·2	*2·6*	*2·5*	1·5	*1·5*	*1·1*	12	*21*	*11*	19	*22*	*24*	16	*21*	*19*
Diseases of nervous system and brain	4·9	*6·2*	*7·9*	11·5	*8·7*	*12·4*	6·8	*6·9*	*9·2*	29	*36*	*32*	48	*42*	*54*	38	*38*	*40*
Diseases of the eye	3·8	*4·5*	*4·9*	5·0	*5·4*	*5·5*	4·2	*4·7*	*5·1*	17	*19*	*19*	20	*22*	*32*	18	*20*	*23*
Diseases of the ear and nose ..	13·7	*8·9*	*7·5*	20·9	*16·1*	*11·6*	15·7	*10·9*	*8·6*	22	*20*	*21*	16	*15*	*24*	20	*18*	*22*
Diseases of the circulatory system ..	2·5	*4·1*	*4·2*	4·3	*3·9*	*8·9*	3·0	*4·1*	*5·5*	19	*34*	*29*	41	*37*	*45*	28	*35*	*36*
Diseases of the lymphatic and ductless glands	0·3	*0·4*	*0·3*	0·7	*0·4*	*0·3*	0·4	*0·4*	*0·3*	49	*46*	*39*	70	*43*	*63*	60	*45*	*46*
Diseases of the respiratory system ..	9·9	*11·2*	*12·8*	12·2	*16·0*	*15·9*	10·5	*12·5*	*13·6*	18	*19*	*17*	22	*17*	*20*	19	*18*	*18*
Diseases of the teeth and gums ..	2·7	*2·8*	*2·9*	4·1	*2·6*	*3·2*	3·1	*2·7*	*3·0*	8	*12*	*10*	8	*12*	*10*	8	*12*	*10*
Diseases of the digestive system ..	26·5	*39·1*	*30·9*	47·2	*42·8*	*51·7*	32·3	*40·1*	*36·7*	20	*20*	*21*	22	*20*	*18*	21	*20*	*20*
Diseases due to disorders of nutrition or metabolism	0·3	*0·4*	*0·2*	0·4	*0·3*	*0·2*	0·3	*0·4*	*0·2*	26	*32*	*29*	9	*60*	*38*	20	*39*	*31*
Diseases of the generative system ..	4·4	*7·2*	*6·6*	15·5	*12·0*	*12·1*	7·5	*8·5*	*8·1*	23	*27*	*21*	29	*22*	*21*	27	*25*	*21*
Diseases of the organs of locomotion	9·4	*11·6*	*12·8*	18·9	*13·9*	*15·6*	12·1	*12·2*	*13·5*	22	*24*	*19*	18	*21*	*20*	20	*23*	*19*
Diseases of the areolar tissue and skin	20·4	*25·4*	*32·0*	26·1	*22·9*	*23·7*	22·0	*24·7*	*29·7*	17	*17*	*17*	18	*16*	*17*	17	*17*	*17*
Diseases of the urinary organs ..	5·2	*3·4*	*2·2*	6·2	*5·5*	*3·7*	5·5	*4·0*	*2·6*	26	*34*	*30*	30	*33*	*39*	28	*34*	*34*
Tumours and cysts	1·3	*2·0*	*2·6*	1·6	*1·8*	*2·8*	1·4	*2·0*	*2·6*	23	*21*	*18*	40	*32*	*23*	28	*24*	*20*
Poisons	1·0	*0·6*	*0·8*	4·1	*4·4*	*3·5*	1·8	*1·7*	*1·6*	10	*11*	*8*	8	*10*	*13*	9	*10*	*11*
All other diseases	3·4	*3·0*	*3·7*	6·9	*3·2*	*7·5*	4·3	*3·1*	*4·8*	9	*10*	*12*	11	*12*	*20*	11	*11*	*15*
Total, all diseases	280·5	*298·0*	*309·3*	427·5	*476·4*	*645·3*	321·7	*347·9*	*402·6*	15	*17*	*18*	19	*17*	*18*	17	*17*	*18*
General injuries	7·0	*8·3*	*5·7*	15·8	*8·6*	*14·4*	9·5	*8·4*	*8·1*	24	*29*	*18*	23	*20*	*16*	24	*27*	*17*
Local injuries	55·5	*66·9*	*58·0*	72·8	*75·0*	*70·0*	60·3	*69·2*	*61·4*	19	*21*	*21*	17	*17*	*20*	18	*20*	*20*
Total, all injuries	62·5	*75·2*	*63·7*	88·7	*83·6*	*84·4*	69·8	*77·6*	*69·5*	20	*22*	*20*	18	*17*	*19*	19	*21*	*20*
Total, all disabilities	343·0	*373·2*	*373·0*	516·1	*560·0*	*729·7*	391·5	*425·5*	*472·1*	16	*18*	*18*	19	*17*	*18*	17	*18*	*18*

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TABLE IV.—PULMONARY TUBERCULOSIS, 1935.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Group of units.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	1	—	1	0·2	Officers, cadets and airman pilots.	2	0·5	Under 1 year ..	3	0·4	Flying units ..	8	0·5
20–24 ..	9	1	10	0·8	Apprentices ..	—	—						
25–29 ..	2	2	4	0·4	Aircrafthands ..	5	0·7	1 year and under 5 years.	6	0·7	Depôts	7	0·7
30–34 ..	3	1	4	1·0	Clerks and office workers.	2	0·5						
35–39 ..	2	1	3	1·2	Drivers and open air workers.	1	0·7	5 years and under 10 years.	7	0·7	Miscellaneous units	9	1·0
40–44 ..	1	—	1	0·7									
45 and over..	1	—	1	1·6	Wireless operators, riggers and armourers.	1	0·5	10 years and over.	8	0·8			
					Fitters and mates	7	0·8						
					Workshop workers	3	0·9						
					Metal workers ..	—	—						
					Other skilled trades	3	1·6						
Total ..	19	5	24	0·7	Total	24	0·7	Total	24	0·7	Total	24	0·7

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TABLE V.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS, 1935.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen—												
Under 18	1,877	—	1,877	965	—	965	61	—	61	1,026	—	1,026
18 and 19	3,351	60	3,411	306	*	305	62	*	63	368	*	368
20 and 21	3,398	864	4,262	262	494	309	78	89	80	340	583	389
22 and 23	2,847	2,011	4,858	233	457	326	84	97	89	317	554	415
24 and 25	2,385	2,220	4,605	213	440	323	73	111	91	286	551	414
26 and 27	2,498	1,191	3,689	183	416	258	60	102	73	243	518	331
28 and 29	1,827	441	2,268	178	381	218	54	84	59	232	465	277
30 to 34	2,416	1,024	3,440	170	354	225	33	61	41	203	415	266
35 to 39	1,338	625	1,963	182	387	248	24	51	32	206	438	280
40 and over	788	351	1,139	205	*	251	23	*	26	228	*	277
Airmen—all ages	22,725	8,787	31,512	286	425	325	61	90	69	347	515	394
Officers and Cadets—all ages	2,517	1,069	3,586	228	450	294	80	79	80	308	529	374
All ranks	25,242	9,856	35,098	280	427	322	63	89	70	343	516	392

* Not calculated: numbers too small.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhoea—acute ..	118	4·7	22·4	69	126	12·8	27·4	79	244	7·0	49·8	75
relapse ..	7	0·3	1·2	61	9	0·9	0·9	35	16	0·4	2·1	46
Total ..	125	5·0	23·6	69	135	13·7	28·3	76	260	7·4	51·9	73
Syphilis—admissions :												
Primary	6	0·2	0·6	36	32	3·2	3·6	41	38	1·0	4·2	40
Secondary	1	0·0	0·1	31	2	0·2	0·2	30	3	0·1	0·3	30
Tertiary	3	0·1	0·4	46	—	—	—	—	3	0·1	0·4	46
Congenital	2	0·1	0·3	60	—	—	—	—	2	0·1	0·3	60
For further treatment	2	0·1	0·0	4	—	—	—	—	2	0·1	0·0	4
Total	14	0·6	1·4	37	34	3·4	3·8	41	48	1·4	5·2	39
Soft chancre	2	0·1	0·2	36	23	2·3	2·5	40	25	0·7	2·7	40
All venereal diseases :												
1935	141	5·6	25·2	65	192	19·5	34·5	66	333	9·5	59·7	65
1934	*141*	*6·6*	*22·8*	*59*	*162*	*17·6*	*30·7*	*69*	*303*	*9·9*	*53·5*	*65*
1933	*158*	*7·2*	*27·2*	*63*	*197*	*21·9*	*29·8*	*55*	*355*	*11·5*	*57·0*	*59*
1932	*169*	*7·3*	*28·7*	*62*	*191*	*21·6*	*31·2*	*60*	*360*	*11·3*	*59·9*	*61*
1931	*245*	*10·4*	*42·0*	*63*	*231*	*25·8*	*34·7*	*55*	*476*	*14·7*	*76·7*	*59*
1930	*293*	*12·7*	*50·6*	*63*	*224*	*25·4*	*30·2*	*49*	*517*	*16·1*	*80·6*	*57*
1929	*250*	*11·0*	*37·8*	*55*	*216*	*25·5*	*32·9*	*56*	*466*	*15·0*	*70·7*	*55*
1928	*302*	*13·5*	*44·6*	*54*	*254*	*31·3*	*34·4*	*50*	*556*	*18·2*	*79·0*	*52*
1927	*269*	*12·5*	*40·8*	*55*	*259*	*30·1*	*31·6*	*45*	*528*	*17·5*	*72·4*	*50*
1926	*357*	*14·9*	*59·5*	*61*	*208*	*23·0*	*31·8*	*56*	*565*	*17·1*	*91·3*	*59*
1925	*400*	*16·8*	*57·0*	*52*	*256*	*27·9*	*36·4*	*52*	*656*	*19·9*	*93·4*	*52*
1924	*432*	*19·2*	*59·3*	*50*	*272*	*30·0*	*44·0*	*59*	*704*	*22·3*	*103·3*	*54*
1923	*482*	*23·8*	*64·8*	*49*	*299*	*31·4*	*42·3*	*52*	*781*	*26·2*	*107·2*	*50*
1922	*525*	*24·9*	*76·1*	*53*	*263*	*33·5*	*34·4*	*48*	*788*	*27·2*	*110·5*	*51*
1921	*709*	*32·3*	*94·2*	*48*	*314*	*49·2*	*52·2*	*61*	*1,023*	*36·1*	*146·4*	*52*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 25,242. (Includes Fleet Air Arm at Home.)				Mediterranean Littoral. Average strength, 4,811.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
Diseases caused by Infection.								
Dysentery—								
Clinical, primary ..	—	—	—	—	4	0·8	0·3	24
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	1	0·0	0·1	24	15	3·1	0·8	19
,, recurrent ..	1	0·0	0·0	15	—	—	—	—
Amœbic, primary ..	—	—	—	—	1	0·2	0·1	45
,, recurrent ..	1	0·0	0·0	2	—	—	—	—
Total—dysentery ..	3	0·1	0·1	14	20	4·2	1·1	21
Enteric Group—								
Typhoid fever	—	—	—	—	—	—	—	—
Clinical enteric	—	—	—	—	—	—	—	—
Paratyphoid fever, A, B and C	1	0·0	0·1	32	2	0·4	0·3	48
Enteritis, acute	77	3·1	1·7	8	179	37·2	3·1	6
Influenza	308	12·2	7·1	8	74	15·4	1·4	7
Malaria—								
Clinical, primary	1	0·0	0·0	8	8	1·7	0·3	16
,, recurrent ..	8	0·3	0·3	14	3	0·6	0·0	5
Quartan, primary and recurrent	—	—	—	—	1	0·2	0·0	3
Benign, tertian, primary	4	0·2	0·2	22	57	11·8	2·0	13
,, ,, recurrent	11	0·4	0·3	11	22	4·6	0·7	12
Malignant, tertian, primary	—	—	—	—	9	1·9	0·4	17
,, ,, recurrent	1	0·0	0·1	19	2	0·4	0·0	9
Total—malaria	25	1·0	1·0	14	102	21·2	3·5	13
Pyrexia of unknown origin ..	7	0·3	0·2	9	21	4·4	0·4	8
Phlebotomus fever	—	—	—	—	65	13·5	1·1	6
Tuberculosis	20	0·8	3·0	54	3	0·6	1·0	120
Upper air passage infections	2,686	106·4	58·4	8	337	70·0	6·9	7
Venereal disease	141	5·6	25·2	65	80	16·6	15·1	69
Other diseases caused by infection	974	38·6	50·1	19	217	45·1	11·1	19
All diseases caused by infection	4,242	168·1	146·8	13	1,100	228·6	45·1	15
All other diseases ..	2,837	112·4	152·3	20	855	177·7	48·4	21
All diseases	7,079	280·5	299·1	15	1,955	406·4	93·5	17
Injuries—								
General injuries	177	7·0	11·6	24	28	5·8	0·7	10
Local injuries	1,400	55·5	73·8	19	319	66·3	11·8	13
All injuries	1,577	62·5	85·4	20	347	72·1	12·5	13
All disabilities	8,656	343·0	384·6	16	2,302	478·5	106·0	17

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Diseases caused by Infection, 1935.

Iraq. Average strength, 2,020.				India. Average strength, 2,042.				Total Force. Average strength, 35,098.			
No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
3	1·5	0·1	9	7	3·4	0·2	12	14	0·4	0·6	15
—	—	—	—	—	—	—	—	—	—	—	—
8	4·0	4·0	184	16	7·8	0·6	13	40	1·1	5·4	50
—	—	—	—	—	—	—	—	1	0·0	0·0	15
8	4·0	0·8	36	—	—	—	—	10	0·3	1·0	38
1	0·5	0·0	13	—	—	—	—	3	0·1	0·1	15
20	9·9	4·9	90	23	11·3	0·8	13	68	1·9	7·2	39
—	—	—	—	1	0·5	0·1	43	1	0·0	0·1	43
—	—	—	—	2	1·0	0·2	40	2	0·1	0·2	40
2	1·0	0·3	60	—	—	—	—	6	0·2	1·0	58
87	43·1	2·1	9	37	18·1	0·6	6	409	11·7	8·1	7
24	11·9	0·7	11	14	6·9	0·3	8	434	12·4	9·8	8
6	3·0	0·2	12	3	1·5	0·1	15	18	0·5	0·7	14
1	0·5	0·1	25	—	—	—	—	12	0·3	0·4	13
2	1·0	0·1	25	—	—	—	—	3	0·1	0·1	18
28	13·9	1·6	21	46	22·5	2·2	18	141	4·0	6·3	16
15	7·4	1·3	31	20	9·8	0·7	13	71	2·0	3·1	16
13	6·4	1·1	31	6	2·9	0·3	18	33	0·9	2·1	23
5	2·5	0·4	29	—	—	—	—	8	0·2	0·5	23
70	34·7	4·8	25	75	36·7	3·3	16	286	8·1	13·3	17
42	20·8	0·7	6	—	—	—	—	75	2·1	1·4	7
128	63·4	3·2	9	61	29·9	1·1	7	255	7·3	5·4	8
2	1·0	0·5	100	1	0·5	0·2	64	27	0·8	4·7	64
98	48·5	2·3	9	99	48·5	1·8	7	3,301	94·0	70·7	8
44	21·8	7·9	65	14	6·9	1·7	46	333	9·5	59·7	65
71	35·1	4·4	23	74	36·2	2·8	14	1,391	39·6	69·9	18
588	291·1	31·9	20	401	196·4	13·0	12	6,588	187·7	251·8	14
426	210·9	34·2	29	346	169·4	18·0	19	4,704	134·0	266·3	21
1,014	502·0	66·1	24	747	365·8	31·0	15	11,292	321·7	518·1	17
20	9·9	1·8	32	95	46·5	6·8	26	333	9·5	21·5	24
131	64·9	7·2	20	162	79·3	8·0	18	2,118	60·3	106·3	18
151	74·8	9·0	22	257	125·9	14·8	21	2,451	69·8	127·8	19
1,165	576·7	75·0	24	1,004	491·7	45·8	17	13,743	391·5	645·9	17

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TABLE VIII.—SICKNESS IN DIFFERENT GROUPS OF UNITS, 1935.

Group of units.	——	Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	178·7	0·5	3·8	8·0	16	445·6	1·4	3·6	23·5	19	248·0	0·7	3·8	12·0	18
	Injury	64·4	2·9	0·7	3·8	22	110·4	14·2	0·2	5·4	18	76·4	5·8	0·6	4·2	20
	Total	243·1	3·4	4·5	11·8	18	556·0	15·6	3·8	28·9	19	324·4	6·5	4·4	16·2	18
Depôts (store and repair), ground schools and armoured car companies.	Disease	424·7	0·7	5·7	17·9	15	344·9	1·2	3·7	19·6	21	398·6	0·9	5·0	18·5	17
	Injury	59·8	0·9	0·2	3·1	19	64·0	2·2	—	3·1	17	61·2	1·3	0·1	3·1	18
	Total	484·5	1·6	5·9	21·0	16	408·9	3·4	3·7	22·7	20	459·8	2·2	5·1	21·6	17
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	320·3	1·4	6·3	12·7	15	506·7	3·7	2·5	23·5	17	370·3	2·0	5·2	15·6	15
	Injury	61·6	2·0	0·2	2·8	17	83·7	2·9	0·4	4·0	17	67·5	2·2	0·2	3·1	17
	Total	381·9	3·4	6·5	15·5	15	590·4	6·6	2·9	27·5	17	437·8	4·2	5·4	18·7	16
All units	Disease	280·5	0·8	5·0	11·8	15	427·5	1·9	3·3	22·2	19	321·7	1·1	4·5	14·8	17
	Injury	62·5	2·1	0·4	3·4	20	88·7	7·5	0·2	4·3	18	69·8	3·6	0·3	3·6	19
	Total	343·0	2·9	5·4	15·2	16	516·1	9·4	3·5	26·5	19	391·5	4·8	4·8	18·4	17

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS, 1935.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	24·0	62·9	6·0	8·9	41·8	136·8	280·4	76·8	357·2
Aircrafthands	10·3	84·8	7·2	13·3	29·0	170·4	315·0	70·1	385·1
Apprentices and boys ..	8·4	514·2	—	15·9	31·1	227·9	797·5	57·3	854·8
Wireless operators, riggers, and armourers	9·1	46·7	13·4	7·0	32·2	171·9	280·3	77·9	358·2
Clerks and office workers ..	15·3	50·2	10·8	11·4	36·8	170·2	294·7	55·3	350·0
Drivers and open air workers	18·6	47·9	17·9	12·2	40·8	234·1	371·5	88·0	459.5
Fitters	8·9	47·6	11·4	7·2	25·8	137·2	238·1	73·4	311·5
Metal workers	10·2	63·0	19·0	13·2	29·3	212·3	347·0	87·8	434·8
Workshop workers	10·9	52·4	11·9	10·1	37·5	151·4	274·2	71·6	345·8
Other skilled workers ..	11·4	73·6	9·8	12·5	31·6	146·6	285·5	52·3	337·8
Total force	12·4	94·0	9·5	10·5	32·3	163·0	321·7	69·8	391·5

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TABLE X.—INJURIES, 1935.

—	Number of cases.							
	Aircrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	10	—	98	22	13	416	559	*23*
Organized games ..	—	898	—	—	—	—	898	*37*
Off duty	1	150	2	263	4	393	813	*34*
Not stated	—	65	—	6	1	74	146	*6*
Total	11	1,113	100	291	18	883	2,416	*100*
Nature of injury:								
General	3	12	64	93	—	131	303	*13*
Head or face ..	1	98	17	97	2	148	363	*15*
Trunk	—	64	1	8	2	69	144	*6*
Upper extremity .	7	153	4	35	11	158	368	*15*
Lower extremity .	—	786	14	58	3	377	1,238	*51*
Total	11	1,113	100	291	18	883	2,416	*100*
Deaths:								
On duty	1	—	40	—	—	61	102	*80*
Organized games	—	2	—	—	—	—	2	*2*
Off duty	—	2	1	13	—	7	23	*18*
Total	1	4	41	13	—	68	127	*100*

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Table XI.—Flying Casualties on Duty, 1935.

	Number of casualties.			
	1932.	1933.	1934.	1935.
Officers.				
Killed	*29*	*26*	*12*	22
Injured	*37*	*23*	*24*	22
Cadets.				
Killed	—	*1*	*3*	1
Injured	*1*	*4*	*2*	3
Airmen.				
Killed	*17*	*21*	*9*	17
Injured	*34*	*36*	*24*	33
All ranks.				
Killed	*46*	*48*	*24*	40
Injured	*72*	*63*	*50*	58
Total casualties	*118*	*111*	*74*	98
Average duration of each case (*days*) :—				
Deaths included	*24*	*26*	*36*	27
Deaths excluded	*39*	*45*	*54*	45

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1935.

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases caused by Infection.						Days.							Days.						Days.
Diphtheria	5	—	—	0·2	0·6	44	6	—	—	—	0·6	0·6	38	11	—	—	0·3	1·2	41
*Dysentery	3	—	—	0·1	0·1	14	65	1	6	—	6·6	7·1	40	68	1	—	1·9	7·2	39
*Enteric group	1	—	—	0·0	0·1	32	8	1	—	—	0·8	1·2	55	9	1	—	0·3	1·3	53
*Enteritis (acute) and gastro-enteritis (acute)	77	—	—	3·1	1·7	8	332	—	—	—	33·7	6·4	7	409	—	—	11·7	8·1	7
*Influenza (including influenzal pneumonia)	308	—	—	12·2	7·1	8	126	—	—	—	12·8	2·7	8	434	—	—	12·4	9·8	8
Leishmaniasis	1	—	—	0·0	0·1	27	6	—	—	—	0·6	0·6	34	7	—	—	0·2	0·6	33
*Malaria	25	—	—	1·0	1·0	14	261	2	1	—	26·5	12·3	17	286	2	—	8·1	13·3	17
Measles	4	—	—	0·2	0·3	26	4	—	—	—	0·4	0·3	24	8	—	—	0·2	0·6	25
Mumps	56	—	—	2·2	3·1	20	6	—	—	—	0·6	0·3	16	62	—	—	1·8	3·4	20
Pneumonia	44	1	1	1·7	4·6	38	18	3	2	—	1·8	2·2	46	62	4	1	1·8	6·8	40
*Pyrexia of unknown origin	7	—	—	0·3	0·2	9	68	—	—	—	6·9	1·2	7	75	—	—	2·1	1·4	7
Rheumatism (acute) ..	57	—	11	2·3	13·4	86	5	—	2	—	0·5	1·3	97	62	—	11	1·8	14·7	86
Rubella	10	—	—	0·4	0·5	17	3	—	—	—	0·3	0·1	13	13	—	—	0·4	0·6	16
*Phlebotomus fever ..	—	—	—	—	—	—	255	—	—	—	25·9	5·4	8	255	—	—	7·3	5·4	8
Scarlet fever	77	—	—	3·1	7·6	36	3	—	—	—	0·3	0·3	36	80	—	—	2·3	7·9	36
Smallpox	—	—	—	—	—	—	1	—	—	—	0·1	0·1	23	1	—	—	0·0	0·1	23
Tuberculosis.																			
Pulmonary	19	1	19	0·8	2·6	50	5	1	5	5	0·5	1·4	102	24	2	24	0·7	4·0	61
Other	1	—	2	0·0	0·4	131	2	—	2	—	0·2	0·4	70	3	—	2	0·1	0·7	91
*TOTAL—TUBERCULOSIS	20	1	21	0·8	3·0	54	7	1	7	5	0·7	1·8	93	27	2	26	0·8	4·7	64

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Acute upper air passage infections.																			
Common cold	79	—	—	3·1	1·2	6	31	—	—	—	3·1	0·6	7	110	—	—	3·1	1·8	6
Laryngitis	23	—	—	0·9	0·5	8	13	—	—	—	1·3	0·2	6	36	—	—	1·0	0·7	7
Pharyngitis and naso-pharyngitis	1,572	—	—	62·3	33·6	8	240	—	—	—	24·4	3·7	6	1,812	—	—	51·6	37·3	8
Rhinitis, acute catarrhal	52	—	—	2·1	0·8	5	24	—	—	—	2·4	0·4	6	76	—	—	2·2	1·2	6
Tonsillitis (including quinsy and Vincent's angina)	960	—	—	38·0	22·3	8	307	—	—	—	31·1	7·5	9	1,267	—	—	36·1	29·8	9
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	2,686	—	—	106·4	58·4	8	615	—	—	—	62·4	12·4	7	3,301	—	—	94·0	70·7	8
Vaccinia	228	—	—	9·0	3·2	5	1	—	—	—	0·1	0·0	4	229	—	—	6·5	3·2	5
Venereal diseases.																			
Gonorrhœa	125	—	—	5·0	23·6	69	135	—	3	1	13·7	28·3	76	260	—	1	7·4	51·9	73
Syphilis	14	—	—	0·6	1·4	37	34	—	—	—	3·4	3·8	41	48	—	—	1·4	5·2	39
Soft chancre	2	—	—	0·1	0·2	36	23	—	—	—	2·3	2·5	40	25	—	—	0·7	2·7	40
*TOTAL—VENEREAL DISEASES	141	—	—	5·6	25·2	65	192	—	3	1	19·5	34·5	66	333	—	1	9·5	59·7	65
Abscess, hand and finger	18	—	—	0·7	0·7	14	8	—	—	—	0·8	0·3	15	26	—	—	0·7	1·0	14
Abscess, other	42	—	—	1·7	2·1	18	22	—	—	—	2·2	0·7	12	64	—	—	1·8	2·8	16
Boils	132	—	—	5·2	3·1	8	71	—	—	—	7·2	2·2	11	203	—	—	5·8	5·3	10
Carbuncles	20	—	—	0·8	0·7	12	5	—	—	—	0·5	0·2	13	25	—	—	0·7	0·8	12
Cellulitis	195	—	—	7·7	5·2	10	176	—	—	—	17·9	5·0	10	371	—	—	10·6	10·2	10
Lymphangitis and lymph-adenitis	56	—	—	2·2	2·2	14	34	—	—	—	3·4	1·9	21	90	—	—	2·6	4·1	17
Osteo-myelitis, periostitis, and osteitis	4	—	1	0·2	1·4	128	3	—	—	—	0·3	0·2	25	7	—	1	0·2	1·6	84
Pyæmia, septicæmia ..	3	3	—	0·1	0·3	37	5	2	—	1	0·5	0·8	56	8	5	1	0·2	1·1	49
Ulcer	2	—	—	0·1	0·1	13	7	—	—	—	0·7	0·2	12	9	—	—	0·3	0·3	13
Other diseases caused by infection	20	2	—	0·8	1·2	21	33	3	2	—	3·3	2·5	28	53	5	—	1·5	3·7	25
*TOTAL—DISEASES CAUSED BY INFECTION	4,242	7	34	168·1	146·8	13	2,346	13	23	7	238·0	105·0	16	6,588	20	41	187·7	251·8	14

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1935—*continued.*

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Contacts and carriers (patients in hospital and sick quarters) ..	49	—	1	1·9	1·8	14	7	—	—	—	0·7	0·3	14	56	—	1	1·6	2·1	14
Effects of parasites ..	19	—	—	0·8	0·6	12	32	—	—	—	3·2	1·6	19	51	—	—	1·5	2·2	16
Other Diseases classified by Systems.																			
Diseases of Nervous System and Brain.																			
Neuritis	23	—	—	0·9	1·7	28	14	—	2	—	1·4	1·4	38	37	—	—	1·1	3·2	31
Nerve paralysis	4	—	2	0·2	0·6	56	4	—	1	—	0·4	0·6	56	8	—	2	0·2	1·2	56
Epilepsy (including observation cases)	13	—	10	0·5	1·0	28	6	1	3	2	0·6	1·2	71	19	1	12	0·5	2·2	42
Psychoneurosis	38	—	9	1·5	2·5	24	42	—	20	3	4·3	4·8	42	80	—	12	2·3	7·3	33
Mental diseases (including observation cases) ..	11	—	10	0·4	1·7	56	9	—	5	5	0·9	3·3	135	20	—	15	0·6	5·0	92
Other diseases of nervous system	35	3	2	1·4	2·3	24	38	—	8	3	3·9	3·4	33	73	3	5	2·1	5·7	28
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	124	3	33	4·9	9·8	29	113	1	39	13	11·5	14·8	48	237	4	46	6·8	24·6	38

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Diseases of the Eye.																			
Infections	66	—	—	2·6	2·8	15	35	—	2	—	3·6	1·4	14	101	—	—	2·9	4·1	15
Other diseases of the eye	31	—	4	1·2	1·8	21	14	—	6	1	1·4	1·3	34	45	—	5	1·3	3·1	25
TOTAL—DISEASES OF THE EYE	97	—	4	3·8	4·6	17	49	—	8	1	5·0	2·7	20	146	—	5	4·2	7·2	18
Diseases of Ear and Nose.																			
Otitis media, acute ..	115	—	—	4·6	8·4	27	20	—	1	—	2·0	1·0	18	135	—	—	3·8	9·4	25
Otitis media, chronic ..	28	—	8	1·1	2·1	27	14	—	2	2	1·4	2·0	52	42	—	10	1·2	4·1	35
Other diseases of ear and nose	202	—	3	8·0	10·8	19	172	—	3	1	17·5	5·9	12	374	—	4	10·7	16·7	16
TOTAL—DISEASES OF EAR AND NOSE	345	—	11	13·7	21·2	22	206	—	6	3	20·9	8·9	16	551	—	14	15·7	30·1	20
Diseases of the Circulatory System.																			
Endocarditis, acute ..	4	1	—	0·2	0·2	19	1	1	—	—	0·1	0·0	2	5	2	—	0·1	0·2	15
Valvular disease of the heart	3	—	—	0·1	0·2	28	1	—	1	2	0·1	0·5	179	4	—	2	0·1	0·7	66
Disease of myocardium ..	1	—	—	0·0	0·0	10	4	—	1	—	0·4	0·7	61	5	—	—	0·1	0·7	51
Disordered action of the heart	15	—	3	0·6	0·7	16	16	—	5	1	1·6	1·7	40	31	—	4	0·9	2·4	28
Varix	24	—	1	1·0	1·2	19	7	—	—	—	0·7	0·4	23	31	—	1	0·9	1·7	20
Other diseases of the circulatory system ..	17	1	—	0·7	0·9	20	13	—	3	—	1·3	1·4	39	30	1	—	0·9	2·3	28
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	64	2	4	2·5	3·3	19	42	1	10	3	4·3	4·8	41	106	3	7	3·0	8·1	28
Diseases of lymphatic system and ductless glands	7	—	3	0·3	0·9	49	7	—	5	1	0·7	1·3	70	14	—	4	0·4	2·3	60

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Table XII.—Nosological Table for Home, Abroad and Total Force, 1935—*continued.*

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Respiratory System. (*a*)																			
Bronchitis	109	—	2	4·3	5·2	17	43	—	3	—	4·4	2·9	25	152	—	2	4·3	8·1	19
Tracheitis	87	—	—	3·4	1·6	7	44	—	—	—	4·5	0·9	8	131	—	—	3·7	2·5	7
Asthma	6	—	1	0·2	0·3	16	6	—	1	—	0·6	0·4	26	12	—	1	0·3	0·7	21
Pleurisy	37	—	4	1·5	4·4	43	21	—	6	—	2·1	2·3	40	58	—	4	1·7	6·7	42
Other diseases of the respiratory system ..	11	—	1	0·4	0·7	25	6	1	1	—	0·6	0·7	43	17	1	1	0·5	1·5	31
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	250	—	8	9·9	12·2	18	120	1	11	—	12·2	7·2	22	370	1	8	10·5	19·4	19
Diseases of teeth and gums	68	—	—	2·7	1·4	8	40	—	—	—	4·1	0·8	8	108	—	—	3·1	2·3	8
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	113	—	—	4·5	4·9	16	22	—	—	—	2·2	1·0	16	135	—	—	3·8	5·9	16
Gastritis, acute	85	—	—	3·4	2·3	10	48	—	1	—	4·9	1·6	12	133	—	—	3·8	3·9	11
Gastritis, chronic ..	4	—	—	0·2	0·4	33	5	—	—	—	0·5	0·2	13	9	—	—	0·3	0·5	22

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Dyspepsia	34	—	—	1·3	1·0	11	34	—	—	—	3·4	1·4	15	68	—	—	1·9	2·4	13
Appendicitis	140	1	—	5·5	8·7	23	111	—	2	—	11·3	8·3	27	251	1	—	7·2	17·0	25
Hernia	40	—	—	1·6	4·0	36	21	—	—	—	2·1	1·6	29	61	—	—	1·7	5·6	34
Constipation	46	—	2	1·8	1·2	9	45	—	—	—	4·6	0·7	6	91	—	2	2·6	1·9	8
Colic	36	—	—	1·4	0·9	9	19	—	—	—	1·9	0·5	9	55	—	—	1·6	1·4	9
Hæmorrhoids	51	—	—	2·0	2·4	17	39	—	—	—	4·0	1·6	15	90	—	—	2·6	3·9	16
Jaundice	22	—	—	0·9	1·7	29	50	—	2	—	5·1	3·3	24	72	—	—	2·1	5·0	26
Other diseases of the digestive system	98	2	4	3·9	9·0	34	71	2	9	1	7·2	7·4	38	169	4	5	4·8	16·4	35
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	669	3	6	26·5	36·5	20	465	2	14	1	47·2	27·5	22	1,134	5	7	32·3	64·0	21
Diseases due to disorders of nutrition or metabolism	8	—	2	0·3	0·6	26	4	—	—	—	0·4	0·1	9	12	—	2	0·3	0·7	20
Diseases of the Generative System.																			
Phimosis	12	—	—	0·5	0·7	21	33	—	—	—	3·3	1·6	18	45	—	—	1·3	2·4	19
Balanitis	12	—	—	0·5	0·3	10	9	—	—	—	0·9	0·2	8	21	—	—	0·6	0·5	9
Urethritis	47	—	—	1·9	3·7	29	59	—	—	—	6·0	7·2	45	106	—	—	3·0	10·9	38
Varicocele	4	—	—	0·2	0·2	17	9	—	—	—	0·9	0·5	19	13	—	—	0·4	0·7	19
Hydrocele	3	—	—	0·1	0·2	30	—	—	—	—	—	—	—	3	—	—	0·1	0·2	30
Epididymitis	6	—	—	0·2	0·5	29	6	—	2	—	0·6	0·6	38	12	—	—	0·3	1·1	33
Other diseases of the generative system	26	—	1	1·0	1·3	19	37	—	1	—	3·8	2·0	20	63	—	1	1·8	3·4	20
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	110	—	1	4·4	7·0	23	153	—	3	—	15·5	12·2	29	263	—	1	7·5	19·2	27

(*a*) Excluding pneumonia and tuberculosis, for which see p. 32.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1935—*continued.*

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	13	—	3	0·5	2·5	70	7	—	1	1	0·7	1·0	52	20	—	4	0·6	3·5	64
Diseases of the joints ..	67	—	3	2·7	5·6	31	66	—	5	1	6·7	5·2	29	133	—	4	3·8	10·8	30
Myalgia and lumbago ..	78	—	—	3·1	2·0	9	61	—	—	—	6·2	1·4	8	139	—	—	4·0	3·4	9
Diseases of muscles, tendons and bursæ ..	59	—	—	2·3	2·0	13	47	—	1	—	4·8	1·1	9	106	—	—	3·0	3·2	11
Deformities of limbs ..	21	—	2	0·8	2·0	35	5	—	—	—	0·5	0·4	33	26	—	2	0·7	2·5	35
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	238	—	8	9·4	14·2	22	186	—	7	2	18·9	9·2	18	424	—	10	12·1	23·4	20
Diseases of Areolar Tissue or Skin.																			
Impetigo	105	—	—	4·2	4·8	17	50	—	—	—	5·1	1·9	14	155	—	—	4·4	6·6	16
Scabies	36	—	—	1·4	1·0	10	4	—	—	—	0·4	0·1	8	40	—	—	1·1	1·1	10
Dermatitis	50	—	—	2·0	2·3	17	47	—	2	—	4·8	2·7	21	97	—	—	2·8	5·0	19
Urticaria	15	—	—	0·6	0·4	9	17	—	—	—	1·7	0·4	9	32	—	—	0·9	0·8	9
Eczema	34	—	—	1·3	2·3	24	19	—	2	—	1·9	2·4	46	53	—	—	1·5	4·6	32
Herpes	39	—	—	1·5	1·2	12	11	—	1	—	1·1	0·6	20	50	—	—	1·4	1·8	13
Psoriasis	12	—	—	0·5	1·0	30	1	—	—	—	0·1	0·1	22	13	—	—	0·4	1·1	30
Tinea cruris	85	—	—	3·4	3·4	14	17	—	—	—	1·7	0·4	9	102	—	—	2·9	3·8	14

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Other tinea	23	—	—	0·9	1·2	19	28	—	—	—	2·8	1·4	18	51	—	—	1·5	2·6	18
Ingrowing toe-nail ..	22	—	—	0·9	0·9	14	22	—	—	—	2·2	0·8	14	44	—	—	1·3	1·7	14
Other diseases of the skin	95	—	1	3·8	5·4	21	41	—	—	—	4·2	1·8	16	136	—	1	3·9	7·1	19
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	516	—	1	20·4	23·7	17	257	—	5	—	26·1	12·5	18	773	—	1	22·9	36·2	17
Diseases of Urinary Organs.																			
Nephritis	14	2	3	0·6	1·5	39	6	—	1	1	0·6	0·7	45	20	2	4	0·6	2·2	41
Pyelitis	9	—	—	0·4	0·8	31	4	—	1	—	0·4	0·4	40	13	—	—	0·4	1·2	34
Cystitis	11	—	—	0·4	0·6	19	14	—	1	—	1·4	0·6	16	25	—	—	0·7	1·2	17
Incontinence of urine ..	1	—	1	0·0	0·1	29	3	—	1	1	0·3	0·3	37	4	—	2	0·1	0·4	35
Albuminuria	30	—	—	1·2	1·8	22	3	—	—	—	0·3	0·1	11	33	—	—	0·9	1·9	21
Other diseases of urinary organs	67	—	5	2·7	4·8	26	31	—	8	—	3·1	2·8	33	98	—	5	2·8	7·7	29
TOTAL—DISEASES OF URINARY ORGANS ..	132	2	9	5·2	9·6	26	61	—	12	2	6·2	5·0	30	193	2	11	5·5	14·6	28
Tumours and Cysts.																			
Tumours, non-malignant	9	—	—	0·4	0·7	28	8	—	2	—	0·8	1·2	55	17	—	—	0·5	1·9	41
Tumours, malignant ..	4	2	—	0·2	0·7	61	1	1	1	—	0·1	0·3	117	5	3	—	0·1	1·0	72
Tumours, undiagnosed ..	1	—	—	0·0	0·0	12	—	—	—	—	—	—	—	1	—	—	0·0	0·0	12
Cysts	19	—	—	0·8	0·7	13	7	—	—	—	0·7	0·2	12	26	—	—	0·7	0·9	12
TOTAL—TUMOURS AND CYSTS	33	2	—	1·3	2·0	23	16	1	3	—	1·6	1·8	40	49	3	—	1·4	3·8	28
Poisons.																			
Effects of alcohol ..	1	—	—	0·0	0·0	5	—	—	—	—	—	—	—	1	—	—	0·0	0·0	5
Other poisons	23	1	—	0·9	0·6	10	40	—	1	—	4·1	0·9	8	63	1	—	1·8	1·5	9
TOTAL—POISONS ..	24	1	—	1·0	0·6	10	40	—	1	—	4·1	0·9	8	64	1	—	1·8	1·5	9
No appreciable disease ..	68	—	—	2·7	1·8	10	47	—	—	—	4·8	1·2	10	115	—	—	3·3	3·0	10
Debility	16	—	—	0·6	0·4	9	22	—	5	—	2·2	1·2	19	38	—	—	1·1	1·6	15
TOTAL—ALL DISEASES	7,079	20	125	280·5	299·1	15	4,213	19	152	33	427·5	218·9	19	11,292	39	158	321·7	518·1	17

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1935—*continued.*

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
General Injuries.																			
Burns and scalds ..	4	—	—	0·2	0·1	8	6	—	2	—	0·6	0·9	56	10	—	—	0·3	1·0	36
Effects of heat	2	—	—	0·1	0·1	12	15	1	—	—	1·5	0·7	17	17	1	—	0·5	0·8	17
Suffocation and strangulation	1	1	—	0·0	0·0	—	—	—	—	—	—	—	—	1	1	—	0·0	0·0	—
Drowning and effects of immersion	10	9	—	0·4	0·0	—	2	—	—	—	0·2	0·0	—	12	11	—	0·3	0·0	—
Minor injuries	59	—	—	2·3	1·7	10	18	—	—	—	1·8	0·5	10	77	—	—	2·2	2·2	10
Multiple fractures ..	86	34	5	3·4	8·9	38	100	64	21	2	10·1	6·1	22	186	98	7	5·3	14·9	29
Gunshot wounds.. ..	1	—	—	0·0	0·0	3	—	—	—	—	—	—	—	1	—	—	0·0	0·0	3
Multiple wounds.. ..	—	—	—	—	—	—	2	—	—	—	0·2	0·4	81	2	—	—	0·1	0·4	81
Other injuries	14	—	1	0·6	0·9	25	13	—	5	—	1·3	1·3	35	27	—	1	0·8	2·2	30
*TOTAL—GENERAL INJURIES	177	44	6	7·0	11·6	24	156	67	28	2	15·8	9·9	23	333	111	8	9·5	21·5	24
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds..	94	—	—	3·7	2·4	9	42	—	1	—	4·3	1·0	9	136	—	—	3·9	3·4	9
Gunshot wounds.. ..	—	—	—	—	—	—	1	1	—	—	0·1	0·0	—	1	1	—	0·0	0·0	—
Burns and scalds ..	5	—	—	0·2	0·1	6	2	—	—	—	0·2	0·0	6	7	—	—	0·2	0·1	6
Fracture of skull ..	23	7	1	0·9	2·2	36	3	2	—	—	0·3	0·1	8	26	9	1	0·7	2·3	32
Concussion of brain ..	94	—	—	3·8	4·4	17	40	—	3	—	4·1	2·5	23	134	—	—	3·8	7·0	19
Other fractures	17	—	—	0·7	1·0	21	4	—	—	—	0·4	0·4	35	21	—	—	0·6	1·3	23
Other injuries	23	1	1	0·9	0·9	15	21	—	2	—	2·1	1·1	20	44	1	1	1·2	2·1	17
TOTAL—HEAD AND NECK	256	8	2	10·1	11·0	16	113	3	6	—	11·5	5·2	17	369	11	2	10·5	16·2	16

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(ii) Trunk:																			
Contusions and wounds..	45	—	—	1·8	1·1	9	32	3	1	—	3·2	1·2	14	77	3	—	2·2	2·3	11
Gunshot wounds.. ..	1	1	—	0·0	0·0	—	—	—	—	—	—	—	—	1	1	—	0·0	0·0	—
Fractures	13	—	1	0·5	1·1	31	7	1	2	—	0·7	1·3	66	20	1	1	0·6	2·4	43
Other injuries	31	1	—	1·2	1·0	12	9	—	—	—	0·9	0·2	8	40	1	—	1·1	1·2	11
TOTAL—TRUNK	90	2	1	3·6	3·2	13	48	4	3	—	4·9	2·7	20	138	6	1	3·9	5·9	16
(iii) Upper Extremity:																			
Contusions and wounds..	64	—	—	2·5	2·4	13	33	—	1	—	3·3	1·0	11	97	—	—	2·8	3·4	13
Gunshot wounds.. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burns and scalds ..	12	—	—	0·5	0·3	10	7	—	—	—	0·7	0·4	19	19	—	—	0·5	0·7	14
Fractures..	113	—	—	4·5	9·9	32	53	—	—	—	5·4	3·6	25	166	—	—	4·7	13·6	30
Dislocations	20	—	—	0·8	1·1	21	20	—	2	—	2·0	1·3	24	40	—	—	1·1	2·4	22
Sprains	15	—	—	0·6	0·5	11	11	—	—	—	1·1	0·2	6	26	—	—	0·7	0·6	9
Other injuries	14	—	—	0·6	0·9	23	6	—	—	—	0·6	0·1	9	20	—	—	0·6	1·0	18
TOTAL—UPPER EXTREMITY	238	—	—	9·4	15·1	23	130	—	3	—	13·2	6·6	19	368	—	—	10·5	21·7	22
(iv) Total—Hand and Wrist	100	—	—	4·0	6·1	22	40	—	—	—	4·1	1·2	11	140	—	—	4·0	7·4	19
(v) Total—Rest of Limb	138	—	—	5·5	9·0	24	90	—	3	—	9·1	5·4	22	228	—	—	6·5	14·4	23
(vi) Lower Extremity:																			
Contusions and wounds..	159	—	—	6·3	5·1	12	95	—	2	—	9·6	3·6	14	254	—	—	7·2	8·7	13
Gunshot wounds.. ..	—	—	—	—	—	—	2	—	—	—	0·2	0·2	36	2	—	—	0·1	0·2	36
Burns and scalds ..	9	—	—	0·4	0·7	30	9	—	—	—	0·9	0·4	16	18	—	—	0·5	1·1	23
Fractures..	116	—	—	4·6	20·1	63	37	—	2	—	3·8	4·4	44	153	—	—	4·4	24·5	59
Dislocations	6	—	—	0·2	0·5	32	1	—	—	—	0·1	0.0	5	7	—	—	0·2	0·5	28
Sprains	279	—	—	11·1	7·6	10	140	—	—	—	14·2	3·6	9	419	—	—	11·9	11·1	10
Other injuries	247	—	1	9·8	10.4	15	143	—	—	—	14·5	5·9	15	390	—	1	11·1	16·2	15
TOTAL—LOWER EXTREMITY	816	—	1	32·3	44·5	20	427	—	4	—	43·3	18·0	15	1,243	—	1	35·4	62·5	18

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1935—*continued.*

Disease.	Home. Average strength, 25,242.						Abroad. Average strength, 9,856.							Total Force. Average strength, 35,098.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. invalided to United Kingdom.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
(vii) Foot and Ankle ..	325	—	—	12·9	9·9	11	172	—	1	—	17·5	4·9	10	497	—	—	14·2	14·7	11
(viii) Knee	266	—	—	10·5	10·6	15	156	—	—	—	15·8	6·2	14	422	—	—	12·0	16·8	15
(ix) Rest of Limb ..	225	—	1	8·9	24·0	39	99	—	3	—	10·0	6·9	26	324	—	1	9·2	30·9	35
*TOTAL—ALL LOCAL INJURIES	1,400	10	4	55·5	73·8	19	718	7	16	—	72·8	32·5	17	2,118	17	4	60·3	106·3	18
*TOTAL—ALL INJURIES ..	1,577	54	10	62·5	85·4	20	874	74	44	2	88·7	42·4	18	2,451	128	12	69·8	127·8	19
*TOTAL—ALL DISEASES ..	7,079	20	125	280·5	299·1	15	4,213	19	152	33	427·5	218·9	19	11,292	39	158	321·7	518·1	17
*TOTAL—ALL DISABILITIES	8,656	74	135	343·0	384·6	16	5,087	93	196	35	516·1	261·3	19	13,743	167	170	391·5	645·9	17

* Analysed in further detail in table VII.

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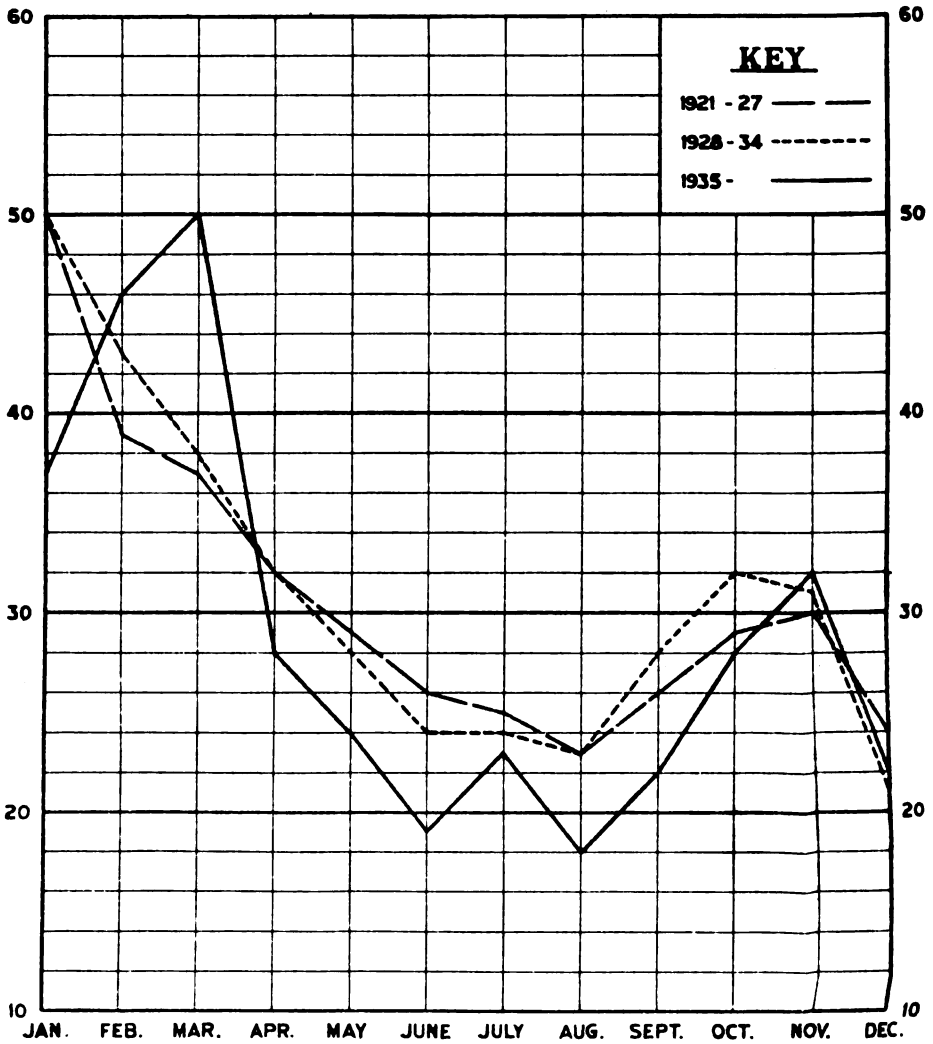
CHART I. SICKNESS AT HOME —— 1935.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1935

General

47. The incidence of total sickness for the force at home, including the Fleet Air Arm, was 581 per 1,000 of strength compared with 531 in 1934 and average incidences over the two preceding periods of 562 and 774 per 1,000. Excluding cases of not more than 48 hours' duration, which are not admitted to either hospitals or sick quarters for treatment, the sickness incidence for 1935 was 343, compared with 336 in 1934, and an average incidence of 373 per 1,000 during both the preceding periods. The number of sick daily, including cases of not more than 48 hours' duration was 16·2 per 1,000 in 1935, compared with 16·7 in 1934, and average incidences of 19·7 and 20·3 per 1,000 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the constantly sick figure was 15·3 in 1935, compared with 15·8 in 1934 and average rates of 18·9 and 18·6 per 1,000 during the two preceding periods. The average number of days' sickness per head in 1935 at 5·9 including 48 hours' cases, compares with 6·1 in 1934 and averages of 7·2 and 7·4 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the average number of days' sickness per head was 5·6 in 1935 as compared with 5·8 in 1934, and averages of 6·9 and 6·8 for the two preceding periods.

48. (i) Including cases of not more than 48 hours' duration the average duration of each case was 10 days in 1935, as compared with 11 in 1934, and averages of 13 and 10 days over the two preceding periods. Excluding cases of not more than 48 hours' duration, the average duration of each case in days was 16 in 1935 compared with 17 in 1934 and an average rate of 18 days during both the preceding periods.

(ii) The increase in the sickness incidence in 1935 as compared with 1934 is mainly due to a rise in the incidence of diseases caused by infection to 168·1, from 136·9 per 1,000 in 1934. The group of diseases which accounted for this increase was upper air passage infections, the incidence of which rose to 106·4 in 1935 from 72·1 per 1,000 in 1934; other incidences show little variation from those of 1934.

(iii) The death rate at 2·9 shows no change from that of 1934 and compares with average incidences of 3·6 and 3·2 during the two preceding periods. The final invaliding incidence was 5·3 in 1935 as compared with 5·4 in 1934 and averages of 7·5 and 11·5 per 1,000 of strength for the two preceding periods.

49. Table XIII, page 48, analyses for officers, cadets and airmen by age groups, certain diseases which the chief nosological table

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over a number of years has demonstrated to have been responsible for the bulk of the medical non-effectiveness at home. Table XIII also permits of a more detailed analysis of the incidence of disease at home in the age groups given in table V, page 24.

50. (i) Analysing the incidence of all disabilities for airmen—all ages—and the officer and cadet group, the incidence for airmen, at 347 compares with the officers' and cadets' group at 308 per 1,000, and an incidence for all ranks at home of 343 per 1,000. The latter compares with the incidences of 336, 412, 355 and 396 per 1,000 for the years 1934, 1933, 1932 and 1931 respectively. In the age groups for airmen, the incidence for all disabilities is highest at 1,026 per 1,000 in the under-18 group, and gradually gets lower until the lowest incidence is reached in the age group 30–34 at 203 per 1,000. The incidence rises again to 228 per 1,000 in the oldest group, i.e., 40 and over. The figure 1,026 for the under 18 years of age group is by far the highest recorded since the analysis of disease by age groups was first shown in the health report in 1924, and is largely accounted for by the considerable increase in disease in the apprentices and boys trade group. This increase is mainly due to the high incidence in upper air passage infections.

(ii) The incidence of all diseases for airmen—all ages—is 286 compared with 228 for officers and cadets, and 280 per 1,000 for all ranks at home. This latter incidence in 1935 compares with incidences of 260, 332, 274 and 323 per 1,000 for the years 1934, 1933, 1932 and 1931 respectively. Considering the age groups for airmen alone, the incidence of all diseases is highest in the youngest group at 965 per 1,000 compared with the lowest incidence in the age group 30–34 at 170 per 1,000.

(iii) The incidence of injury for airmen—all ages—is 61 compared with 80 for officers and cadets, and an incidence for all ranks of 63 per 1,000, which compares further with incidences of 76, 80, 81 and 73 per 1,000 for 1934, 1933, 1932 and 1931 respectively. Analysing the injuries incidence for the age groups of airmen, the highest incidence is recorded in the age group 22–23; there is then a progressive decrease towards each end of the age scale, the incidence for the under-18 age group being 61 per 1,000 and that for the over-40 age group 23 per 1,000.

(iv) In the various individual disease incidences, that of influenza for all ranks at home was slightly lower at 12 per 1,000 as compared with 13 per 1,000 in 1934. Comparing the age groups of airmen and the officer and cadet group, it will be noted that the incidence of influenza was lowest in the younger age groups and gradually increased until the highest figures were reached in the oldest age group for airmen and in the officer and cadet group with 23 and 28 per 1,000 respectively.

(v) Upper air passage infections again show a large increase in incidence in 1935 in the under-18 age group. Apart from the

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18–19 age group, which has a small increase, the figures for the other groups show little variation over those for 1934. The incidence figures for the under-18 age group in 1935 and 1934 are 629 and 352 per 1,000 respectively, while those for the age group 18–19 for these years are 121 and 110 per 1,000 respectively.

(vi) As in 1934, the incidence of venereal disease was highest in the airmen age group 24–25, the figure being 11 per 1,000, and lowest in the under-18 age group of airmen, in which no case occurred. The highest incidence for respiratory diseases is in the under-18 age group, the incidence for all ranks being 10 per 1,000. The incidence of digestive diseases is highest in the youngest age group of airmen at 41 per 1000, as compared with 26 per 1,000 for all ranks.

51. Table XIV, page 49, analyses the distribution of the same diseases, as shown in table XIII, in the larger stations which have maintained an average strength of approximately 450 or over during the year. The stations are the same in 1935 as those analysed in 1934 except that Felixstowe and Upper Heyford, shown as separate entities in 1934, are now included with "all other stations," and three stations, Eastchurch, Old Sarum and Sealand, previously included in "all other stations," are now shown individually.

52. (i) The table shows that the highest incidence of all disabilities was at Halton—637 per 1,000. In 1934 Cranwell and Halton shared the highest incidences at 518 and 516 respectively. The next highest incidences in 1935 were at Cranwell and Uxbridge with 509 and 452 per 1,000 respectively. Old Sarum showed the lowest all-disabilities incidence with 183 per 1,000. These figures compare with the incidence of 343 per 1,000 of strength for all stations at home.

(ii) Considering the incidences of all diseases, Halton recorded the highest incidence with 596 per 1,000 and Old Sarum the lowest with 116 per 1,000, which compare with an incidence of 280 per 1,000 for all stations.

(iii) Calshot and Cranwell showed the highest injuries incidence with 107 and 100 per 1,000, and Manston and Halton the lowest with 43 and 41 per 1,000, which compare with an incidence of 63 per 1,000 for all stations. Other points of note are as follows:—The incidence of venereal disease was markedly low at Andover, Halton and Old Sarum, while the highest incidences were at Sealand, in the Fleet Air Arm at home, and at Calshot. The low incidences at Halton and Cranwell may in part be attributed to the fact that a large proportion of personnel at these stations is formed of apprentices. The absence of venereal disease among apprentices has already been mentioned. The incidence of upper air passage infections was highest at Halton and Cranwell and lowest at Old Sarum, the figures being 382, 198 and 7 per 1,000 respectively. The high incidence of upper air passage infections at Halton and Cranwell is accounted for by

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the fact that the personnel of these stations is composed largely of the "under-18" age group which, as past experience shows, is particularly prone to this group of diseases.

53. Chart I, facing page 43, records graphically the monthly case incidence at home of the total sickness per 1,000 of strength for 1935, and the two preceding periods. The usual high peak in January is absent, but one, mainly due to nasopharyngitis at Halton, appears in March. The monthly case incidences from April to October are lower than those for the two preceding periods. The low incidences in August and December correspond with the periods of summer and Christmas leave.

Notes on Diseases

54. *Acute upper air passage infections.*—The incidence of this group of diseases increased from 72·1 in 1934 to 106·4 per 1,000 in 1935, and the chief conditions subscribing to this group of infections were pharyngitis and naso-pharyngitis which increased from 38·1 in 1934 to 62·3 per 1,000 in 1935, and tonsillitis, which increased from 32·4 in 1934 to 38·0 per 1,000 in 1935.

55. *Influenza.*—The incidence figure of this disease at 12·2 per 1,000 and the average number of sick daily at 7·1 varied very little from the comparable figures for 1934.

56. *Acute rheumatism.*—Fifty-seven fresh cases of acute rheumatism, representing an incidence of 2·3 per 1,000, occurred at home, compared with 26 cases and an incidence of 1·2 per 1,000 in 1934. In addition, there were four cases remaining under treatment at the end of 1934 making a total of 61 coming under treatment in 1935. Three of these four cases returned to duty and one was invalided from the service in 1935. There were no deaths during the year, but 11 cases in all were invalided from the service, compared with 2 final invalids in 1934. The 57 fresh cases in 1935 comprised 21 airmen, 30 aircraft apprentices at Halton, one boy at Cranwell and 5 apprentice clerks at Ruislip. Of the 21 airmen, 19 were returned to duty during the year and 2 were remaining under treatment at the end of 1935. Of the 36 apprentices and one boy, 14 became fit for duty again during the year, 10 were invalided from the service, and 12 were remaining under treatment at the end of 1935.

57. *Measles, mumps, rubella and scarlet fever.*—The incidences for these diseases show a very slight decrease, the totals for 1934 and 1935 being 6·6 and 5·9 per 1,000 respectively.

58. *Otitis media.*—(i) There were 115 cases of acute otitis media in 1935, giving an incidence of 4·6 per 1,000 compared with 31 cases and an incidence of 1·4 per 1,000 in 1934.

(ii) The number of chronic cases during the same period was 28, giving an incidence of 1·1 per 1,000, compared with 11 cases, and an incidence of 0·5 per 1,000 in 1934. In 1935, 8 were finally invalided compared with 5 in 1934.

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59. *Impetigo.*—During the year under review there were 105 cases of impetigo at home, an incidence of 4·2, as compared with 81 and an incidence of 3·8 per 1,000 in 1934.

60. *Tinea cruris.*—There was a slight increase in the incidence of tinea cruris in 1935 to 3·4 from 3·2 per 1,000 in 1934, the number of cases being 85 and 68 respectively.

61. *Psychoneurosis.*—During 1935, 38 cases, representing an incidence of 1·5 per 1,000, were recorded, compared with 34 cases and an incidence of 1·6 per 1,000 in 1934. Nine cases were invalided from the service in 1935 as compared with 18 in 1934.

62. *Diseases of the heart.*—There were 23 cases of disease of the heart, representing an incidence of 0·9 per 1,000, compared with 40 cases and an incidence of 1·8 per 1,000 in 1934. Of the 23 cases, 15 were " disordered action," 5 were disease of the myocardium and endocardium and 3 were valvular disease. There was one death, and 3 cases were invalided from the service.

63. *Injury.*—The incidence of injury in 1935 was 62·5 compared with 76·2 per 1,000 in 1934 and there were 54 deaths and 10 final invalids as compared with 45 and 6 respectively for 1934.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	1,877	8	629	—	18	41	269	965	61	1,026
18 and 19 ..	3,351	7	121	3	9	16	150	306	62	368
20 and 21 ..	3,398	9	80	7	10	22	134	262	78	340
22 and 23 ..	2,847	9	65	7	9	31	112	233	84	317
24 and 25 ..	2,385	9	56	11	11	26	100	213	73	286
26 and 27 ..	2,498	10	47	9	6	27	84	183	60	243
28 and 29 ..	1,827	10	39	7	5	26	91	178	54	232
30 to 34 ..	2,416	14	40	5	9	23	79	170	33	203
35 to 39 ..	1,338	16	41	3	10	16	96	182	24	206
40 and over ..	788	23	35	1	16	36	94	205	23	228
Airmen, all ages	22,725	10	112	6	10	25	123	286	61	347
Officers and cadets, all ages	2,517	28	56	5	9	36	94	228	80	308
All ranks at Home, 1935..	25,242	12	106	6	10	26	120	280	63	343
All ranks at Home, 1934..	*21,424*	*13*	*72*	*7*	*8*	*34*	*126*	*260*	*76*	*336*
All ranks at Home, 1933..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*
All ranks at Home, 1932..	*23,053*	*32*	*61*	*7*	*11*	*40*	*123*	*274*	*81*	*355*
All ranks at Home, 1931..	*23,492*	*48*	*76*	*10*	*12*	*44*	*132*	*323*	*73*	*396*

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Table XIV.—Sickness at Principal Stations at Home.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Andover ..	467	11	30	2	11	19	105	178	88	266
Calshot ..	600	12	55	10	10	35	142	264	107	371
Cranwell ..	1,975	5	198	4	6	40	156	409	100	509
Eastchurch ..	558	29	43	5	14	18	104	213	75	288
Gosport ..	647	26	79	3	5	31	105	249	63	312
Grantham ..	516	11	66	8	6	25	89	205	74	279
Halton	2,832	3	382	2	14	19	176	596	41	637
Henlow	1,402	9	48	9	7	29	95	197	76	273
Manston ..	1,236	13	57	6	21	27	96	220	43	263
Old Sarum ..	476	—	7	2	4	21	82	116	67	183
Sealand	453	36	62	13	13	40	108	272	99	371
Uxbridge ..	2,328	5	130	5	18	27	212	397	55	452
Fleet Air Arm at home	664	3	60	12	4	26	101	206	74	280
All other stations	11,088	16	50	6	8	25	91	196	56	252
Total 1935 ..	25,242	12	106	6	10	26	120	280	63	343
Total 1934 ..	*21,424*	*13*	*72*	*7*	*8*	*34*	*126*	*260*	*76*	*336*
Total 1933 ..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*

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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1935

General

64. The incidence of total sickness abroad in 1935 is analysed in table I, page viii, by geographical areas, and compared with the average incidences of the two preceding periods. As stated in chapter I, para. 1, the Mediterranean Littoral comprises Malta, Egypt, Sudan, Transjordan and Palestine, Aden, drafts en route to and from the United Kingdom, and special duties. Figures for the Far East stations are shown as a footnote to table I.

65. (i) The average strength abroad during 1935 was 9,856, and the total number of cases of sickness 9,224, representing an incidence of 936 per 1,000, compared with 866 in 1934, and average incidences of 963 and 1,566 per 1,000 in the two preceding periods. Excluding cases which were not admitted to hospitals and sick quarters the incidence was 516 per 1,000 in 1935 compared with 544 in 1934, and average incidences of 560 and 730 per 1,000 during the two preceding periods.

(ii) The number of sick daily, including 48-hour cases rose to 28·2 in 1935 from 27·7 in 1934 and compares with average incidences of 27·7 and 39·2 per 1,000 over the two preceding periods. Excluding cases of not more than 48 hours' duration, the constantly sick incidence was 26·6 per 1,000 in 1935 compared with 26·3 in 1934 and average incidences of 26·0 and 35·9 per 1,000 for the two preceding periods.

66. The average number of days' sickness per head, including cases of not more than 48 hours' duration was 10·3 in 1935 compared with 10·1 in 1934 and averages of 10·1 and 14·3 for the two preceding periods. If cases of not more than 48 hours' duration are excluded, the average number of days' sickness per head was 9·7 in 1935, compared with 9·6 in 1934 and averages of 9·5 and 13·1 days for the two preceding periods.

67. Including cases of not more than 48 hours' duration, the average duration of each case in days was 11 in 1935, 12 in 1934 and averages of 10 and 9 for the two preceding periods. If cases not admitted to hospitals and sick quarters are excluded, the average duration of each case was 19 days in 1935, compared with 18 in 1934 and average durations of 17 and 18 days for the two preceding periods.

68. The comparative sickness incidences for the total force abroad during 1935 show that, compared with 1934, there were decreases in the case incidences for upper air passage infections from 85 to 62, for dysentery from 17 to 7, for malaria from 36 to 26

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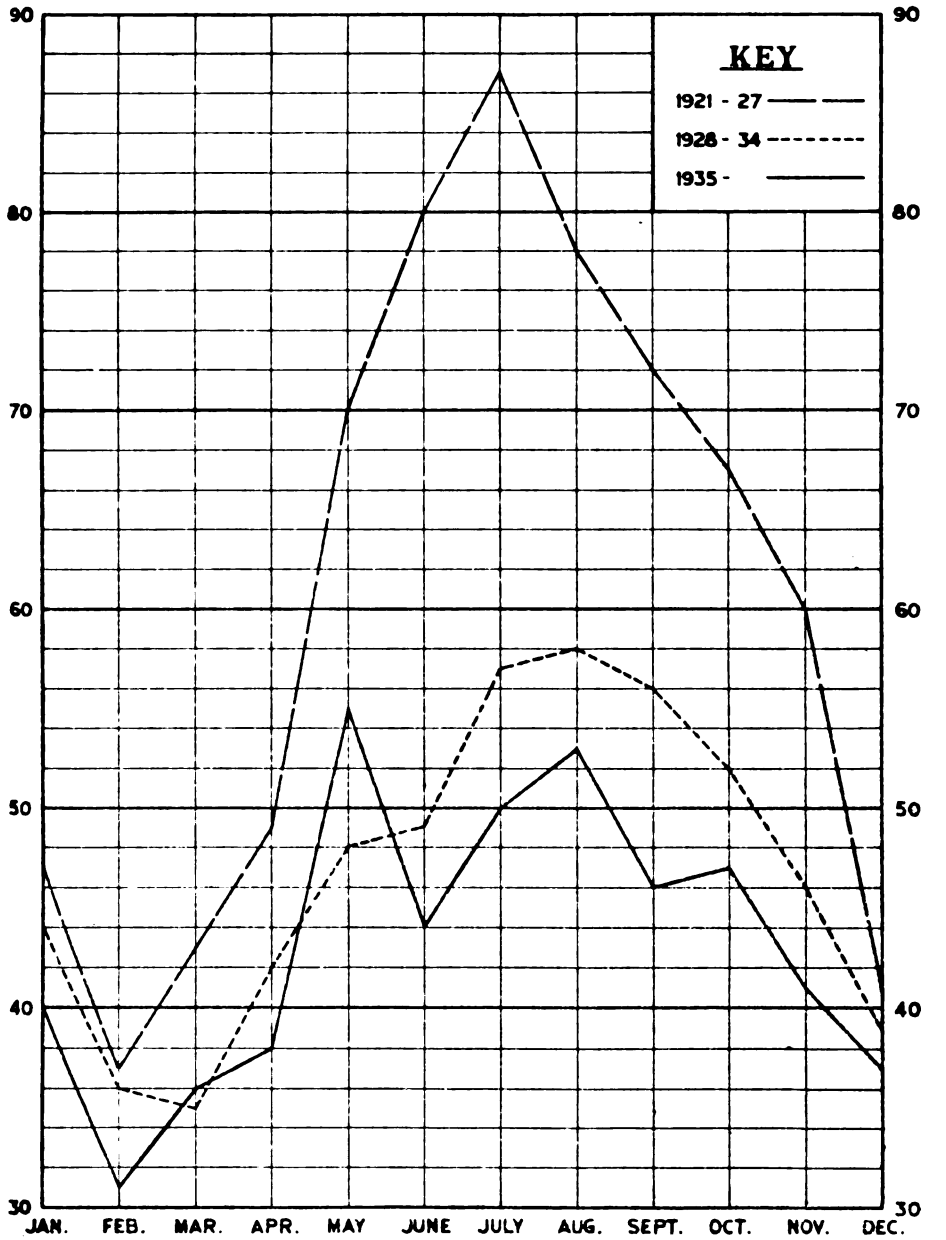
CHART 2. SICKNESS ABROAD —— 1935.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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and for phlebotomus fever from 31 to 26 per 1,000 of strength, while influenza, venereal, respiratory and digestive diseases show little change.

69. The incidence for deaths was 9·4 per 1,000 as compared with 3·4 in 1934 and average incidences of 4·4 and 7·2 per 1,000 for the two preceding periods. The invaliding rate to the United Kingdom from abroad was 19·9 per 1,000 in 1935 compared with 13·8 in 1934 and average rates of 14·9 and 22·8 per 1,000 for the two preceding periods. The invaliding incidence for personnel finally invalided on account of disabilities which arose while serving abroad, was 3·6 in 1935, compared with 4·3 in 1934, and average incidences of 3·8 and 5·8 per 1,000 for the two preceding periods. The increases in the incidences for deaths and invalids to the United Kingdom were mainly due to the Quetta earthquake.

70. In 1935 the sickness incidences for geographical areas show that the incidence of all cases of sickness for the Mediterranean Littoral at 1,015 per 1,000 is the highest, and compares with the average incidence of 936 per 1,000 for all areas abroad. If only admissions to hospitals or sick quarters are considered, the Iraq command records the highest incidence at 577 per 1,000, compared with an average incidence of 516 for all areas abroad. Iraq also shows the highest incidence for final invalids, for invalidings to the United Kingdom, for the number of sick daily, for the average duration of each case in days, and for the average number of days' sickness per head. In 1934 and 1933 also, Iraq showed the highest figures for all the above incidences. In 1935 the case incidence for Iraq shows a decrease, and that for all other commands abroad an increase.

71. Table XV, page 56, analyses for officers, and by age groups for airmen, certain diseases which are the principal causes of medical non-effectiveness abroad and is comparable with table XIII, page 48, for the force at home, with the exception that it includes the following diseases :—dysentery, malaria and phlebotomus fever. It also serves as a means of analysing in detail the incidence of disease abroad in the age groups shown in table V, page 24. The incidences of the age groups, 18–19 and 40 and over, have not been calculated, as the numbers of these age groups serving abroad are so small that the figures would be of little value.

72. (i) The incidence for influenza in all ranks at 13 per 1,000 was the same as for 1934 and the incidence in the officer group was highest, as in 1934, with 22 per 1,000 as compared with 33 per 1,000 in that year. The highest incidence among airmen was in the 20–21 and 26–27 age groups with 15 per 1,000 as compared with 18 per 1,000 in the 26–27 age group in 1934. Comparing 1935 with 1934, the incidence for dysentery in all groups shows a decrease from 17 to 7 per 1,000, and the incidence of malaria a decrease for all ranks and

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all age groups, with the exception of the airmen age groups 20–21 and 22–23, which record a slight increase. The incidence of phlebotomus fever for all ranks shows a decrease ; in the age groups for airmen the only increase is in the age group 28–29. As noted previously, the incidence of phlebotomus fever is highest in the youngest age groups and decreases rapidly towards the oldest age group. In 1935 there was a decrease of upper air passage infections to 62 from 85 per 1,000 for all ranks. The highest incidence was in the officer group with 90 per 1,000 as compared with 62 per 1,000 for all groups. The incidence of venereal disease for all ranks increased from 18 per 1,000 in the year 1934 to 19 per 1,000 in 1935 ; the most marked differences, when compared with 1934, being the increases from 13 to 20 in incidence for the age group 20–21 and from 10 to 18 for the age group 30–34, and the decrease from 20 to 11 for the age group 35–39.

(ii) During 1935, for all ranks, of the groups of disabilities analysed, injuries show the highest disability incidence with 89 per 1,000, followed by upper air passage infections with 62 per 1,000. Total disabilities case incidence is highest in the airmen age group 20–21, and lowest in the airmen age group 30–34.

73. Chart 2, facing page 50, shows the monthly incidence of sickness abroad during 1935 compared with the two preceding periods. It will be noted that the highest incidence of sickness in 1935 is reached in the months of May, July and August, with the peak in May ; in the period 1928–34 the peak is reached in August, and in the period 1921–27, in July.

Notes on Diseases

74. *Dysentery, malaria and phlebotomus fever.*—(i) Table XVI, page 57, analyses dysentery, malaria and phlebotomus fever at the principal stations abroad, and also shows the percentage of all diseases attributable to each and their incidence collectively compared with all other diseases. Table XVII, page 58, continues the analysis of dysentery, malaria and phlebotomus fever to show the actual number of cases at each station, and also differentiates between primary and relapse cases of malaria and the various types of dysentery. In table XVIII, page 59, these numbers are shown monthly by geographical areas, sub-divided for malaria and dysentery into the number of primary and total cases, and the incidences of the various types of disease are compared with the corresponding averages over the two preceding periods.

(ii) (*a*) Abroad, the incidence of dysentery decreased from 17 in 1934 to 7 per 1,000 in 1935. This is accounted for by a decrease in the number of cases at Hinaidi, from 93 in 1934 to 16 in 1935, showing a decrease in incidence from 49·4 in 1934 to 9·9 per 1,000 in 1935

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for Iraq. There is little change from 1934 in the figures for the Mediterranean Littoral, but India shows a decreased incidence from 17·1 to 11·3 per 1,000.

(*b*) Malaria decreased in incidence abroad from 36 per 1,000 in 1934 to 26 in 1935. In the Mediterranean Littoral and India there were decreases of incidence from 32·8 to 21·2 and from 65·9 to 36·7 per 1,000 respectively, comparing 1934 and 1935. Iraq shows an increase from an incidence of 24·0 in 1934 to 34·7 per 1,000 in 1935.

(*c*) The incidence of phlebotomus fever decreased in 1935 from 31 to 26 per 1,000. There was little change in the number of cases and the incidence in the Mediterranean Littoral and India, comparing 1935 and 1934, but in Iraq the number of cases decreased to 128 in 1935 from 152 in 1934, representing a decrease in the incidence to 63·4 in 1935 from 74·3 per 1,000 in 1934.

(iii) (*a*) Considering the incidences of these diseases at individual stations abroad, that of dysentery calls for little comment.

(*b*) As in 1934 in the Mediterranean Littoral the number of cases of malaria was greatest at Abu Sueir and Heliopolis and in Iraq at Basra. In India, Quetta and Risalpur each accounted for 16 cases; in 1934 Quetta accounted for the highest number in India.

(*c*) Comparing the number of cases of phlebotomus fever in 1934 and 1935, Aden and Mosul show decreases from 19 to 4 and 22 to 2 respectively, while Ramleh and Risalpur show increases from 6 to 10 and 4 to 14 respectively.

(iv) The monthly case incidences of these diseases in 1935 show that in the Mediterranean Littoral and India the highest incidence of malaria was recorded in September. In Iraq the peak of malarial incidence was reached in May. The peak of the phlebotomus fever incidence in the Mediterranean Littoral was reached during July, in Iraq during August and September, and in India during May and July.

75. *Diseases of the enteric group.*—In 1935 eight cases of this group of diseases occurred, compared with 8, 10 and 8 in 1934, 1933 and 1932 respectively. The incidence of the group fell to 0·8 in 1935 from 0·9 per 1,000 in 1934. There were no cases invalided to the United Kingdom or out of the service. One case died during the year under review. These cases consisted of :—

(i) *Typhoid fever.*—One, compared with one in 1934. The case was an officer stationed at Karachi in India. On recovery he returned to duty within the command.

(ii) *Paratyphoid " B " fever.*—Four airmen, compared with one in 1934. Two of these cases were stationed at Mosul in Iraq, one in Amman, Transjordan, and one at Calafrana, Malta. On recovery, all returned to duty within their respective commands.

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(iii) *Clinical enteric group.*—Cases which show clinical signs and symptoms of one of the enteric group fevers and are not diagnosed bacteriologically, are recorded under this heading. In 1935 two cases, both in India, occurred, compared with 6 in 1934. One case was stationed at Ambala and returned to duty within the command on recovery. The other, stationed at Risalpur, died as a result of the disease.

76. *Acute enteritis and acute gastro-enteritis.*—The incidence for these diseases in 1935 was 33·7 compared with 32·6 per 1,000 in 1934. This represents an increase in the number of cases from 300 to 332 in 1935. There were no deaths or invalids.

77. *Effects of heat.*—There were 15 cases as compared with 9 in 1934, 9 occurring in Iraq, 3 in Aden, 2 in Palestine and one in the Far East. There were 4 cases of heat hyperpyrexia, all in Iraq. Apart from the death of one case of heat hyperpyrexia all returned to duty in their respective commands.

78. *Influenza.*—The numbers of cases for 1934 and 1935 were 122 and 126, representing incidences of 13·3 and 12·8 per 1,000 respectively.

79. *Upper air passage infections.*—The incidence of acute upper air passage infections in 1935 was lower at 62·4 compared with 84·9 per 1,000 in 1934. This incidence includes cases of acute tonsillitis.

80. *Psychoneurosis.*—There were 42 cases of psychoneurosis in 1935, compared with 21 cases in 1934, the incidence per 1,000 of strength being 4·3, an increase of 2·0 as compared with 1934. The number of cases invalided to the United Kingdom was 20, and 3 were invalided from the service as compared with 7 and 3 respectively in 1934. This increase for 1935 was mainly due to 13 cases occurring in Quetta as a result of the earthquake.

81. *Otitis media.*—(i) In 1935 there were 20 acute cases, an incidence of 2·0 per 1,000, compared with 28 cases and an incidence of 3·0 in 1934. One case was invalided to the United Kingdom.

(ii) Fourteen chronic cases occurred, representing an incidence of 1·4 as compared with 13 cases and an incidence of 1·4 per 1,000 in 1934. Two cases were invalided to the United Kingdom and 2 out of the service.

82. *Acute rheumatism.*—During 1935, five cases of acute rheumatism occurred, giving an incidence of 0·5, compared with 4 cases and an incidence of 0·4 per 1,000 in 1934. There were no deaths, or invalidings out of the service. Two cases were invalided to the United Kingdom.

83. *Diseases of the heart.*—Twenty-two cases of disease of the heart occurred during 1935 with an incidence of 2·2 per 1,000, as

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compared with 18 cases and an incidence of 1·9 per 1,000 in 1934. The 22 cases consisted of 16 " disordered action," 4 disease of the myocardium, one valvular disease and one acute endocarditis.

84. *Injury*.—The incidence of injury in 1935 was 88·7 compared with 81·2 per 1,000 in 1934. There were 74 deaths, 44 invalidings to the United Kingdom, and 2 final invalids, compared with 13, 9 and none respectively in 1934. The increase of these figures for 1935 is mainly attributable to the Quetta earthquake.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.											
		Influenza.	Dysentery.	Malaria.	Phlebotomus fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—													
18 and 19	60	*	*	*	*	*	*	*	*	*	*	*	*
20 and 21	864	15	9	23	45	60	20	10	57	255	494	89	583
22 and 23	2,011	12	8	27	29	64	24	9	47	237	457	97	554
24 and 25	2,220	10	4	37	23	66	23	10	41	226	440	111	551
26 and 27	1,191	15	6	27	24	65	24	15	35	205	416	102	518
28 and 29	441	9	14	14	23	54	25	20	50	172	381	84	465
30 to 34	1,024	8	8	21	18	48	18	7	43	183	354	61	415
35 to 39	625	14	3	14	16	48	11	23	53	205	387	51	438
40 and over	351	*	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages ..	8,787	12	7	26	25	59	21	12	45	218	425	90	515
Officers, all ages ..	1,069	22	8	31	32	90	7	11	65	184	450	79	529
All ranks, abroad 1935	9,856	13	7	26	26	62	19	12	47	215	427	89	516
,, ,, 1934	*9,200*	*13*	*17*	*36*	*31*	*85*	*18*	*14*	*44*	*205*	*463*	*81*	*544*
,, ,, 1933	*8,994*	*20*	*7*	*49*	*40*	*71*	*22*	*18*	*46*	*196*	*469*	*83*	*552*
,, ,, 1932	*8,824*	*13*	*9*	*32*	*47*	*80*	*22*	*16*	*40*	*176*	*435*	*79*	*514*
,, ,, 1931	*8,956*	*22*	*9*	*37*	*51*	*82*	*26*	*15*	*38*	*175*	*455*	*76*	*531*

* Not calculated.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD, 1935.

	Average strength	Number of cases.						Percentage of total number of cases of disease.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Phlebotomus fever.	Total: dysentery, malaria and phlebotomus fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Phlebotomus fever.	Total: dysentery, malaria and phlebotomus fever.	All other diseases.	Dysentery, malaria and phlebotomus fever.	All other diseases.	All diseases.
Aden.								%	%	%	%	%			
Aden and Khormaksar	523	3	8	4	15	274	289	1	3	1	5	95	29	524	553
Egypt.															
Aboukir ..	811	4	14	—	18	251	269	2	5	—	7	93	22	310	332
Abu Sueir ..	408	—	22	3	25	141	166	—	13	2	15	85	61	346	407
Heliopolis ..	637	1	19	9	29	291	320	—	6	3	9	91	45	457	502
Far East.															
Singapore ..	567	—	1	—	1	287	288	—	1	—	1	99	2	506	508
India.															
Karachi ..	614	5	9	2	16	249	265	2	3	1	6	94	26	406	432
Iraq.															
Hinaidi ..	1,407	16	21	105	142	513	655	3	3	16	22	78	101	365	466
Basrah and Shaibah	362	3	46	21	70	166	236	1	20	9	30	70	193	459	652
Mediterranean.															
Calafrana ..	377	—	1	6	7	138	145	—	1	4	5	95	19	366	385

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TABLE XVII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: STATIONS ABROAD, 1935.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Phlebotomus fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
Mediterranean Littoral.												
Aden ..	523	—	—	2	2	1	1	3	3	4	8	4
Aboukir ..	811	1	1	3	3	—	—	4	4	10	14	—
Abu Sueir ..	408	—	—	—	—	—	—	—	—	15	22	3
Amman ..	251	1	1	—	—	—	—	1	1	3	3	11
Calafrana ..	377	—	—	—	—	—	—	—	—	1	1	6
Heliopolis ..	637	—	—	1	1	—	—	1	1	13	19	9
Helwan ..	167	—	—	—	—	—	—	—	—	7	8	—
Ismailia ..	233	—	—	2	2	—	—	2	2	5	7	4
Khartoum ..	251	—	—	4	4	—	—	4	4	9	11	6
Ramleh ..	269	—	—	—	—	—	—	—	—	2	3	10
Various small stations and drafts *en route* ..	884	2	2	3	3	—	—	5	5	6	6	12
Total ..	4,811	4	4	15	15	1	1	20	20	75	102	65
India.												
Ambala ..	156	—	—	2	2	—	—	2	2	4	5	4
Karachi ..	614	3	3	2	2	—	—	5	5	6	9	2
Kohat ..	215	2	2	3	3	—	—	5	5	8	10	11
Lahore ..	160	1	1	2	2	—	—	3	3	5	9	4
Lower Topa ..	161	—	—	1	1	—	—	1	1	2	2	1
Peshawar ..	171	1	1	3	3	—	—	4	4	6	7	22
Quetta ..	168	—	—	2	2	—	—	2	2	14	16	—
Risalpur ..	283	—	—	—	—	—	—	—	—	9	16	14
Various small stations ..	114	—	—	1	1	—	—	1	1	1	1	3
Total ..	2,042	7	7	16	16	—	—	23	23	55	75	61
Iraq.												
Basrah ..	146	—	—	—	—	3	3	3	3	24	35	11
Hinaidi ..	1,407	3	3	8	8	4	5	15	16	13	21	105
Mosul ..	217	—	—	—	—	1	1	1	1	3	3	2
Shaibah ..	216	—	—	—	—	—	—	—	—	9	11	10
Various small stations ..	34	—	—	—	—	—	—	—	—	—	—	—
Total ..	2,020	3	3	8	8	8	9	19	20	49	70	128
*Far East.**												
Singapore ..	567	—	—	—	—	—	—	—	—	1	1	—
Other stations	51	—	—	—	—	—	—	—	—	9	10	—
Fleet Air Arm.												
All units ..	365	—	—	—	—	1	2	1	2	1	3	1
TOTAL: All stations abroad	9,856	14	14	39	39	10	12	63	65	190	261	255

* Exc'uding Fleet Air Arm.

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TABLE XVIII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: CERTAIN COMMANDS ABROAD—MONTHLY CASE INCIDENCE.

Month.	Dysentery.						Malaria.						Phlebotomus fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	1	1	—	—	—	—	4	6	—	2	4	6	—	—	—
February	—	—	—	—	—	—	1	3	1	2	1	4	1	—	—
March	1	1	—	—	3	3	1	3	1	1	3	5	4	1	4
April	1	1	5	5	—	—	2	4	2	3	2	2	1	2	20
May	1	1	4	4	4	4	—	3	6	8	12	18	6	15	7
June	3	3	4	4	—	—	5	8	1	2	2	2	11	5	16
July	3	3	—	—	1	1	2	6	6	7	10	10	13	15	15
August	2	2	1	1	5	5	16	17	12	14	2	4	10	12	23
September ..	1	1	2	2	3	3	28	29	19	22	1	2	9	3	24
October	2	2	1	1	—	—	11	15	5	9	—	1	4	6	15
November	2	2	4	4	1	1	4	5	1	4	4	7	4	1	4
December	3	3	2	2	2	3	1	3	1	1	8	9	2	1	—
1935 Total ..	20	20	23	23	19	20	75	102	55	75	49	70	65	61	128
Case incidence per 1,000 of strength.															
1935	4·2	4·2	11·3	11·3	9·4	9·9	15·6	21·2	26·9	36·7	24·3	34·7	13·5	29·9	63·4
1934	*3·4*	*3·6*	*16·6*	*17·1*	*49·4*	*49·4*	*21·9*	*32·8*	*44·1*	*65·9*	*17·6*	*24·0*	*17·5*	*28·0*	*74·3*
1928–34	*3·9*	*4·2*	*15·0*	*16·0*	*14·5*	*15·0*	*18·8*	*29·8*	*62·9*	*116·1*	*24·2*	*34·4*	*27·4*	*47·0*	*95·6*
1921–27	*8·8*	*11·1*	*11·7*	*18·3*	*29·3*	*35·3*	*16·1*	*34·9*	*118·4*	*260·0*	*55·9*	*123·6*	*53·5*	*61·4*	*227·7*

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CHAPTER IV.—SPECIAL DEPARTMENTS

Central Medical Establishment

85. (i) *General.*—The routine work of the Central Medical Establishment has increased as compared with previous years, the total number of medical examinations carried out annually being 6,066, 3,735, 3,301, 3,334, 3,156 and 2,706 for the years 1935, 1934, 1933, 1932, 1931 and 1930 respectively: this marked increase of work during 1935 was due to the expansion of the service, and necessitated the formation of a second Central Medical Board. Details of these examinations are shown in table XIX, page 91.

(ii) *Teaching.*—During 1935 the usual routine short courses of instruction in aviation medicine were given to 34 newly joined R.A.F. medical officers, and to 18 selected naval and colonial service medical officers.

(iii) *Examinations at the Central Medical Establishment.*—Table XX, page 91, shows that during 1935, of 2,437 candidates for flying, in the regular air force, 61 per cent. were finally accepted as fit for full flying duties, and 31 per cent. permanently rejected on medical grounds as compared with 69 and 27 per cent. respectively in 1934. Table XXII, page 93, gives the various causes of rejection of all service candidates—flying and otherwise—medically examined at the Central Medical Establishment during the year under review. The chief causes of rejection in examinations covering all groups of personnel were defective vision in 32 per cent. and defective physical efficiency in 18 per cent. of those rejected. The rejections for defective vision only in 1934, 1933, 1932 and 1931 were 44, 35, 40 and 34 per cent. respectively of all rejects. Table XXI, page 92, records the average results of the physical efficiency tests and measurements of all candidates for flying duties accepted at the Central Medical Establishment and finally entering the service for the years 1935, 1934, 1933, 1932, 1931, 1930 and for the 5-year period 1925-1929.

(iv) *Researches.* — For details see under headings Medicine, Neurology, Ophthalmology, and Physiology—paras. 86, 87, 88 and 90 respectively.

(v) *Publications.*—The manual titled: " Medical Examination for Fitness for Flying " (Air Publication 130) has been entirely revised. It is issued as a guide to medical officers when examining candidates for professional aviation—service or civil—or when conducting periodic re-examination of flying personnel.

(vi) The Central Medical Establishment was consulted once more by the Everest Expedition Authorities, and, in addition to carrying out a special medical examination of each member, demonstrated for them the effect of adding oxygen to the air breathed at altitude.

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Medicine

86. (i) The causation of ventricular predominance in the normal heart has been investigated. Electrocardiograms and orthodiagraphs of a series of 200 cases have shown that the main causal factors of right and left ventricular predominance are as follows :—

(*a*) The position of the heart in the chest.

Right ventricular predominance is relatively common in individuals with the narrow type of vertical heart associated with a narrow chest and underweight.

Left ventricular predominance is relatively common in the transverse type of heart associated with a broad chest and overweight.

(*b*) Minor degrees of ventricular enlargement give rise to either right or left ventricular predominance which does not necessarily conform either to the shape of the heart or chest, or to the degree of underweight or overweight of the individual. Instances are seen most commonly in first-class athletes.

(*c*) Displacement of the heart also gives rise to right and left ventricular predominance. Instances are a high left cupola of the diaphragm, depressed lower end of the sternum, and scoliosis.

(*d*) Combinations of the above.

(ii) As a result of these investigations there would appear to be few cases of right or left ventricular predominance for which there is not a satisfactory explanation, and, in the absence of definite evidence of cardiovascular disease, the majority of these cases can be regarded as suitable for admission to the service.

Neurology

87. (i) *General.*—Routine examination of cases of functional and organic nervous disease have been carried out at the Central Medical Establishment, and at the R.A.F. hospitals. No neurological cases of outstanding interest have occurred, with the exception of one of dystrophia myotonica. The personnel involved in the Quetta earthquake on arrival in United Kingdom were found, on neurological examination, to show only slight effects of the nervous strain to which they had been subjected.

(ii) *Researches.*—An investigation was carried out by station medical officers of the Air Defence of Great Britain on the psychological effects of fatigue in flying ; this work is still in progress. At Halton, research in connection with the occupational selection of aircraft apprentices was continued for the third successive year, and a report is being drawn up correlating the result of the experiments with the proved occupational capacity of these boys.

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Ophthalmology

88. (i) *General.*—The out-patient work of Uxbridge, Halton and Cranwell has steadily increased with the recent expansion of the Royal Air Force, and the routine and special examinations at the Central Medical Establishment have advanced considerably in number. There were two cases of outstanding interest and rarity. The first was that of an officer with a very large cyst of the retina and the other was that of a warrant officer who had a peri-macular disturbance of both retinae. These cases were shown at the Royal Society of Medicine. The total major ophthalmic operations for the year numbered sixteen.

(ii) *Teaching.*—There were several short courses of instruction at the Central Medical Establishment in ophthalmology with particular regard to the ocular muscle system and its relationship to flying, as well as the routine teaching of newly joined medical officers.

(iii) *Researches.*—These were carried out in connection with the perception of visibility of aircraft.

(iv) *Publications.*—" Binocular Vision in Everyday Life, with a Description of the Binocular Gauge " was read at the Ophthalmic Section of the Royal Society of Medicine.

Oto-rhino-laryngology

89. (i) *General.*—(*a*) *Central Medical Establishment.*—A clinical examination by a specialist in oto-rhino-laryngology was made on practically every individual presenting himself before the Central Medical Board. By this means, candidates with aural disease or an unhealthy upper respiratory tract were excluded from entry into the service. In addition, the consultant reported on a large number of cases sent from various units for his special consideration, and collaborated in the team-work of the Establishment including the instruction of colonial and newly-recruited R.A.F. medical officers.

(*b*) *Hospitals.*—The number of operations performed and the anaesthetics administered are shown in para. 106 (vi) ; the x-ray examinations made are included under these headings in the surgical section. In all 432 operations were performed ; tonsillectomy and proof puncture of the maxillary antrum were the commonest operations performed. Abundant clinical material was available at these hospitals and was utilised to give practical instruction to medical officers preparing themselves for examinations in this speciality.

(ii) The number of cases of upper air passage infections at home increased from 1,545 in 1934 to 2,686 in 1935, the incidences per 1,000 being 72·1 and 106·4 respectively. As a result of this and of the larger proportion of complications that occurred in 1935, the amount of ear, nose and throat work was considerably increased. For example, the number of mastoid operations at Halton rose from 2 in 1933 and 1 in 1934 to 20 in 1935.

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Physiology

90. The physiological problems affecting the airman in general, and the service pilot and observer in particular, have continued to be the subject of investigation on the lines of last year's report. Among a variety of questions considered, the following are of general interest :—

The avoidance of fatigue, in the interests of efficiency, with particular attention to posture and noise.

The risks to flying personnel of breathing air contaminated, even to a minute degree, with exhaust or other harmful gases.

Defence of flying personnel against gas.

The provision of air ambulances, and the cognate use of service aircraft in that capacity. Two officers took part in the VIII International Air Ambulance Congress at Brussels.

The design of flying headgear, including the masks required for breathing supplementary oxygen at high altitudes.

The physiological aspect of flight in the stratosphere.

The occasional use of the decompression-chamber for such purposes as ascertaining the response to altitude of a flying candidate.

The physiological risks attending the use of modern volatile fire-extinguishers, and the protection of the crews of burning aircraft.

The design of special instruments for the medical examination of flying candidates and personnel.

Hygiene

91. (i) *General.*—There has been progressive improvement both in the sanitary condition of stations, and in the comfort and health of personnel during 1935. This in great measure was due to a number of factors, namely, improved housing conditions—all new barracks being centrally heated ; better instruction of officers and men in hygiene and sanitation ; and the extension of prophylactic inoculations to include Schick and Dick testing of all recruits together with the appropriate inoculation of non-immunes to diphtheria and scarlet fever. This inoculation procedure had previously been confined to aircraft apprentices and medical personnel.

(ii) *Teaching.*—This work was extended to include practical instruction in camps during the summer months.

(*a*) *At Halton,* courses in general field sanitation and hygiene—each course lasting a fortnight—were given to 325 aircraft apprentices and airmen. Aircraft hands undergoing training as cooks were given appropriate instruction in hygiene and sanitation, especially in relation to food supplies, cookhouses, canteens and messes. General instruction in

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service hygiene and sanitation was given to 34 newly-recruited medical officers and to 12 general duties' officers prior to promotion examination. In March the members of the Public Health Class of the London School of Hygiene and Tropical Medicine (London University) paid their annual visit to Halton for instruction in service hygiene.

(*b*) *At Uxbridge*, instruction was given on similar lines to that of previous years. Acting pilot officers (356 in all) undergoing the disciplinary course on joining the service were given instruction in general hygiene and camp sanitation. A three months' course was given to 22 airmen under training as sanitary assistants ; and, two weeks' elementary instruction in hygiene and sanitation was given to 9 aircraft hands prior to carrying out sanitary duties at summer training camps. Ninety hospital orderlies under training attended a fortnight's course on hygiene and sanitation before proceeding to the Medical Training Depôt, Halton. In addition, 750 recruits attended one hygiene lecture, fortnightly, during the period of their training.

(*c*) *At Eastchurch and Farnborough*, boy entrants were given a series of lectures on hygiene together with practical instruction in the use of field sanitary appliances.

STATIONS IN THE UNITED KINGDOM

92. *General.*—This year has been marked by the commencement of extensive new building programmes at existing and new stations in all commands, especially Inland Area and Air Defence of Great Britain, to provide accommodation for extra personnel and material under the R.A.F. expansion scheme. In many stations, owing to the emergency, temporary accommodation for officers' quarters, messes, men's barracks, dining-halls, and ablution rooms was provided in wooden huts of the " Eastleigh " type. These were made in 10 to 28-foot widths, each in 5-foot sections, so that buildings of various lengths were erected with ease ; they were built of timber frames with weather boardings and lined throughout with fibre board. Deviations from the normal had to be made, however, in the floor space allowance as follows :—

(i) In barrack huts, a decrease from 60 to 45 square feet per head.

(ii) Airmen's dining halls and institutes reduced by 50 per cent.

(iii) Cookhouses reduced to 75 per cent. of the standard.

(iv) Sergeants' mess accommodation reduced by 50 per cent.

(v) Sick quarter accommodation reduced to 75 per cent. of the standard.

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Shower baths have been provided in all these new stations instead of slipper baths so as to conserve water and minimise the danger of spreading skin-borne infections.

93. **Air Defence of Great Britain.**—(i) The *average strength* of this command during 1935 was 6,184.

(ii) *General health.*—The incidence of sickness for the year 1935, 48-hours' cases excluded, was the lowest on record, being 255 per 1,000—the average for the previous 5 years being 350 per 1,000.

(iii) *Communicable disease* incidence for the year was low, being 41·5 per 1,000 of strength. The chief infections were :—

Disease.	*Total no. of cases.*	*Case incidence per 1,000 of strength.*
Tonsillitis	123	19·9
Influenza	71	11·5
Venereal disease ..	22	3·6
Notifiable diseases ..	41	6·6

As regards venereal disease, of the 22 cases there were 20 of gonorrhoea, and 1 each of syphilis and soft sore. From the fact that a third of these cases occurred at Hendon it can be inferred that the comparative isolation of the majority of R.A.F. stations from large centres of population is of assistance in keeping the incidence of venereal disease low.

(iv) *Water supplies* to stations in this command fall into three categories :—

(*a*) Local municipal mains .. 17 stations.

(*b*) Bore wells .. .. 7 stations (Abingdon, Andover, Bircham Newton, Duxford, Tangmere, Upper Heyford, Worthy Down).

(*c*) Lake .. .. .. 1 station (Aldergrove).

The water supplies to all these stations, with the exception of Abingdon and Aldergrove, were bacteriologically satisfactory during the year. At Abingdon where the water supply is derived from two wells 43 and 53 feet deep respectively, a " chloramine " apparatus was installed in August, with good results. At Aldergrove where the supply is from Lough Neagh, local contamination rendered the water unsafe for drinking, so that it was necessary to instal a chloraminome.

(v) *Conservancy.*—All sewage disposal was satisfactory, except at Usworth, where the small septic tank plant proved inadequate to deal with the increase in personnel consequent on expansion. The standard type of R.A.F. sewage plant is being installed at an early date.

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94. **Coastal Area.**—(i) The *average strength* of the command for 1935 was 3,133.

(ii) The *general health* of this command during the year under review was good and there were no epidemics of infectious disease among the R.A.F. personnel. Sporadic cases of infection occurred as follows :—

Disease.	*Number of cases.*	*Ratio per* 1,000.
Chickenpox	3	1·0
Dysentery	1	0·3
Erysipelas	2	0·6
Food poisoning	1	0·3
Jaundice..	3	1·0
Malaria (B.T. recurrent) ..	5	1·6
Mumps	7	2·2
Lobar pneumonia	1	0·3
Scarlet fever	2	0·6
Tuberculosis	3	1·0
Total	28	8·9

(iii) The case incidence of notifiable disease was 8·9 per 1,000, a decrease as compared with the previous year when it was 13·9 per 1,000. Thirty cases of chickenpox occurred among the married families at Calshot in the spring, but none among serving personnel. A civilian storekeeper employed at Leuchars contracted cerebro-spinal fever, but there were no further cases. Venereal diseases showed a slightly higher case incidence than in the previous year—6·7 as compared with 5·8 per 1,000 in 1934. There were 18 cases of gonorrhoea, 2 of syphilis and 1 of soft sore.

(iv) Improvements were made in the accommodation of certain stations. At Lee-on-the-Solent, a new sergeants' mess and quarters was completed to accommodate 50 dining and 12 sleeping members, also an officers' mess with accommodation for 100 in mess and 56 in quarters. Two warrant officers' married quarters and 18 other ranks' married quarters were erected. At Leuchars, three barrack blocks and a sergeants' mess were built, while at Donibristle, one warrant officer's and 15 other ranks' married quarters were completed. Eastleigh was one of the first hutted camps to be built in connection with the R.A.F. expansion scheme.

95. **Cranwell.**—(i) The *average strength* of the command during the year was 1,975.

(ii) The *general health* of this command was maintained during 1935, despite a certain amount of diminished floor-space allowed per head consequent on the sudden expansion of the air force which began in July.

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(iii) *Communicable disease.*—There was no epidemic of communicable disease, and the incidence of tinea cruris, which has been present in this command for several years, showed a distinct decrease during the year under review.

(iv) New buildings were completed during 1935 to cope with the expansion scheme, as follows :—

(*a*) An officers' mess in West Camp.

(*b*) New hutments in East and West Camps erected for the purposes of classrooms, laboratories, workshops, morse rooms and wireless stations. One large hut was added to the Institute in West Camp.

(*c*) The hospital was extended by the addition of two hutted wards.

(*d*) Two conversions were completed, viz. :—the signal block in East Camp was converted into a barracks, and the mess formerly used by the cadets into lecture rooms.

96. **Halton.**—(i) The *average strength* of this command during 1935 was 2,832, an increase of 609 over the previous year consequent on the expansion. This increase of personnel did not lead to any lessening of floor space per head as the building programme was able to keep pace with the expansion. "Maitland" barracks were evacuated by the Airmen's Conversion Course in December to provide accommodation for the new entry of apprentices. Three blocks of "Paine" barracks were completed in December to provide sleeping accommodation for the airmen of administration wing, while temporary wooden buildings were erected for use as dining-rooms, kitchens and institute.

(ii) (*a*) The *general health* was satisfactory, the incidence of sickness, all disabilities, being 637 per 1,000 as compared with 516 per 1,000 for the previous year. There were 123 cases of communicable disease distributed as follows :—

Disease.	*Officers.*	*Airmen.*	*Aircraft Apprentices.*	*Total.*
Chickenpox ..	—	—	1	1
Diphtheria ..	—	3	3	6
Jaundice.. ..	—	1	1	2
Measles	—	—	1	1
Mumps	1	2	30	33
Pneumonia (lobar)	1	—	12	13
Rubella	—	—	4	4
Scarlet fever ..	—	4	58	62
Tuberculosis ..	—	1	—	1
Total ..	2	11	110	123

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(*b*) There were 5 cases of venereal disease, a case incidence of 1·7 per 1,000. These five cases all occurred among airmen.

(*c*) *Infections of the upper respiratory tract.*—There were two epidemics among the apprentices. The first, affecting 511 boys, occurred from January to April, the predominant condition being a nasopharyngitis; whereas tonsillitis was more in evidence in the second epidemic during November and December, when the number affected was 100. It was necessary to convert certain barrack blocks into temporary hospital accommodation to cope with these epidemics, the worst cases being removed to the R.A.F. Infectious Diseases Hospital.

(*d*) *Scarlet fever.*—A small outbreak of scarlet fever, 58 cases in all, coincided with the first epidemic of influenza. In this connection it is interesting to note that these aircraft apprentices were accommodated in two separate wings surrounding a common parade-ground, and that the number of boys and their age-grouping approximated very closely in each wing. Fifty per cent. of the boys, i.e., the personnel of No. 1 Wing, had been inoculated with scarlet fever toxin on entry to the service during the past three years; whereas the boys in the other wing had not been so protected. Of those who contracted scarlet fever, 93 per cent. belonged to the unprotected and only 7 per cent. to the protected group. This result is strong evidence in favour of the value of prophylactic inoculation for scarlet fever, at least for semi-closed populations.

(iii) Certain measures were taken to lessen the incidence of infections of the upper respiratory tract among aircraft apprentices as follows:—

(*a*) Attention to adequate ventilation and heating of all barrack rooms.

(*b*) Forbidding the use of the swimming-baths by newly-joined apprentices during winter and by those who had recently suffered from infections of the upper respiratory tract.

(*c*) Thorough cleansing of all feeding and drinking utensils.

(*d*) Keeping overalls dry when marching in wet weather between barracks and workshops.

(*e*) Provision of sufficient pegs in the dining-rooms to allow of greatcoats being worn between barracks and dining-rooms.

(*f*) Prevention of loitering after games.

(*g*) Gargling with weak potassium permanganate solution night and morning.

(*h*) Five minutes of physical exercises and deep breathing on rising each morning.

(*i*) Increase in diet—1 oz. of vitaminized margarine, ½ oz. of jam, and ½ oz. of sugar per head per diem. This increase commenced in March.

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97. **Inland Area.**—(i) The *average strength* was 10,454. In this area there was a considerable amount of new construction in most camps in connection with the expansion, especially at Henlow, where a new sick quarters to accommodate 3 officers and 20 airmen patients was completed and occupied in November, and a new hutted camp was built giving accommodation to 3,000 personnel.

(ii) (*a*) *Control of communicable disease.*—Notwithstanding the lowered physical standards for recruits and the lessening of floor space per man consequent on the expansion, comparatively few cases of infectious disease were notified, the case incidence being 88 as compared with 154 per 1,000 for 1934. It is thought that the strict insistence on the spacing and staggering of beds and the higher standard of messing had some effect on the reduction of the incidence of infectious disease. The occurrence of only one case of cerebro-spinal fever is worthy of note.

(*b*) Notifiable diseases during the year were as follows :—

Disease.	*Cases.*	*Incidence per* 1,000.
Cerebro-spinal fever	1	0·1
Chickenpox	4	0·4
Diphtheria	1	0·1
Food poisoning	1	0·1
Jaundice	11	1·1
Malaria (recurrent)	7	0·7
Measles	2	0·2
Mumps	10	1·0
Paratyphoid A.	1	0·1
Pneumonia	26	2·5
Rubella	4	0·4
Scarlet fever	8	0·8
Tuberculosis	11	1·1
Whooping cough	1	0·1
Total	88	8·4

(*c*) Except for an outbreak of nasopharyngitis of the influenzal type in February there was no increased incidence of sickness.

(*d*) There were 67 cases of venereal disease, 4 of these being of syphilis and 63 gonorrhoea, an incidence of 6·4 per 1,000 as compared with 7·1 per 1,000 for the previous year.

(iii) The *water supply* to all stations continued to be satisfactory as regards potability, with the exception of Sutton Bridge, where new piping had been laid as an extension to the existing water system ; and of Sealand, where the water had been unsatisfactory for the past two years. Contamination of the water in the latter instance was traced to certain service reservoirs which were by-passed in

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November, since when the water supply has been very satisfactory. Action is being taken by the local water company to correct the fault of the service reservoirs.

(iv) *Conservancy* was satisfactory throughout the area.

STATIONS ABROAD

98. **Aden.**—(i) *Climatology* was specially studied in relation to its monotony and the lack of contrast between day and night temperatures. The average of the differences between the maximum and minimum temperatures for the years 1931 to 1935 inclusive, during the winter months, was 12·9° F. and during the summer months, 11·7° F. Thus, not only does the atmospheric temperature of Aden rise in summer, but there is slightly less contrast between night and day temperatures than in winter. The cooling power of the night air in winter at Sheikh Othman, some ten miles inland, was often found to be twice as great as it is at Aden. The possibility of developing a hill station in more exhilarating surroundings is envisaged.

(ii) *Communicable diseases* showed no increase as compared with the previous five years. The general health was remarkably good, the disease incidence rate being 553 per 1,000 as compared with 677 per 1,000 for the previous year. The communicable disease rates were as follows :—

Royal Air Force	365·0 per 1,000.
Aden Levies	40·4 „ „

The very low sickness incidence among the Aden Levies is probably the result of immunity previously acquired in their native land.

(*b*) As regards R.A.F. personnel, there were 8 cases of malaria all contracted outside Aden, that is, in Somaliland or Iraq ; 3 cases of dengue, 4 cases of phlebotomus fever, 3 cases of dysentery, 2 being Flexner infections, and one amoebic ; 4 cases of tuberculosis, one being pulmonary, one tabes mesenterica, and 2 genito-urinary ; 12 cases of schistosomiasis ; and 9 cases of venereal disease, including 2 relapses.

(*c*) *Schistosomiasis.*—There was a small outbreak of intestinal schistosomiasis, apparently the result of bathing in a stream—the Wadi Tiban—in the Aden hinterland. This outbreak is of special interest as it is the first recorded instance of infection of Europeans with Schistosoma mansoni in Southern Arabia, though the infection had been detected among the Arab population in 1931. On the 4th and 5th March, 1935, 12 of a party of 15 R.A.F. personnel bathed in the Wadi Tiban at Musemir and at Al Anad respectively, and 7 weeks later, the eggs of Schistosoma mansoni were found in one of the party, 4 of which were by then in hospital with intermittent gastro-enteritis and mild fever, accompanied by a

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marked eosinophilia. The remainder of the party was then examined, and the blood of all, except 3, showed a marked eosinophilia varying between 35 and 70 per cent., though schistosome ova were not found. The 3 members of the party with a normal blood picture were subsequently found to be those who had not bathed in the Wadi. All those showing eosinophilia were treated intravenously with tartar emetic (a total of 20 grains) which reduced the eosinophil count after 3 to 4 months to normal, or practically normal, level. The assumption is that there were 12 cases of schistosomiasis.

(*d*) *Venereal diseases* incidence, excluding relapses, was 14 per 1,000, which is lower than the average incidence for all commands abroad, viz., 18·6 per 1,000. There were 5 cases of gonorrhoea, one each of syphilis and soft sore.

(iv) *Buildings.*—Reconstruction was carried out, especially in the Steamer Point area, to provide in all buildings adequate through ventilation and liberal shade.

(v) *The water supply* by pipeline from wells at Sheikh Othman, first brought into operation in 1931, continued to be consistently of good quality, and the distribution of water by camel cart has ceased for all service purposes. Distilled sea-water, however, was used in the manufacture of mineral waters.

(vi) *Food.*—Fresh vegetables were plentiful and cheap, being obtainable from Somaliland and Lahej. Mutton was consistently good, and fresh fish abundant and varied. Milk was obtained from the R.A.F. Dairy Farm.

(vii) *Conservancy* by lorry still exists at Steamer Point, and it is hoped that a water-borne system of sewage disposal will materialise in the financial year 1936.

(viii) In the Robaht district a number of horned vipers (Cerastes cerastes) were encountered, but there is no record of snake-bite having occurred.

Far East Command

99. SINGAPORE.—(i) The *average strength* of this station during 1935 was 567.

(ii) *Communicable diseases.*—The general health of the personnel at this station was satisfactory during the year. In June and July there was an outbreak of smallpox, four coolies employed by the Royal Air Force having developed the disease; as a result of vaccination of all individuals working on the station there was no further spread of the infection. The relative freedom of this station from malaria is very satisfactory, especially in view of the fact that a large number of cases of malaria occurred in the surrounding districts. Anopheles maculatus is present in the seepage areas just outside the old camp boundary, while anopheles ludlowi, also a

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carrier of malaria in this district, occurs in numbers about two miles away. The extensive excavations undertaken in connection with the development scheme resulted in a large increase of possible breeding sites. During the year, drainage of the swamp area known as Sungei Pus, just to the east of the airmens' barracks, was begun and a belt of rubber plantation, approximately half a mile wide and surrounding the aerodrome on the landward side, was cleared. In addition, a number of insanitary native dwellings were demolished. Completion of this work should do much to lessen the mosquito nuisance.

(iii) *New buildings* constructed during 1935 were as follows :—

(*a*) Two barrack blocks, each of three storeys, in which are incorporated drying-rooms and clothing-locker rooms, were practically completed. Similar drying-rooms are being added to existing barrack blocks, as they have been found essential on account of the humidity of the climate.

(*b*) The sergeants' mess and canteen were enlarged to accommodate the increased establishment.

(*c*) Four warrant officers' and 40 other ranks' married quarters were built, making a total of 58 completed at the end of 1935.

(*d*) Accommodation for Asiatic labourers was increased considerably, the total Asiatic population living on the station at the end of 1935 comprising 2,360 males, 221 females and 88 children. During the year 23 skilled tradesmens' quarters and 9 huts for single coolies were completed. These buildings are of permanent character.

(*e*) Two new stores buildings were completed. The roofs have an insulating inner lining of fibre board which has led to an average decrease in the temperature of about 4° F. inside the buildings. The doors of all new stores are being placed to windward to encourage through draughts.

(*f*) A digestion tank and an extra sprinkler bed were added to the sewage works.

100. KAI TAK.—(i) The *average strength* of this station during 1935 was 51.

(ii) *Climatology.*—The rainfall for 1935 was 20 inches below the average.

(iii) *Communicable diseases.*—The general health of the station was good. The high malaria-rate, 9 primary infections in a strength of 51 as compared with one in a strength of 58 in 1934, caused some anxiety as regards the adequacy of the existing anti-mosquito measures. It was decided, therefore, to render all barracks and other sleeping quarters mosquito-proof forthwith. During the year the breeding-places of mosquitoes in the vicinity of the R.A.F. station

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were investigated and mapped. Anopheles minimus, jeyporiensis, hyrcanus and maculatus were found to be very numerous, anopheles minimus and jeyporiensis being notorious carriers of malaria in this district. Much of the country adjacent to the aerodrome consists of paddy fields so that the breeding of mosquitoes will proceed apace unless energetically controlled.

101. **India.**—(i) The ***average strength*** of this command during 1935 was 2,042.

(ii) The general health of the command was exceptionally good, despite the fact that there were large numbers of cases suffering from injuries and anxiety neurosis, the result of the Quetta earthquake. It is noted that there has been a marked decrease in the sickness-rate year by year since the R.A.F. went to India on service, the ratio per 1,000 per annum of fresh cases of sickness being reduced to 25 per cent. of that in 1921, and 58 per cent. of that in 1926. If 48-hour cases are excluded, the decrease is less marked (see Table A). This general improvement in health is considered to be due not so much to natural influences as to improved hygiene and sanitation, in which all units and personnel have co-operated intelligently.

TABLE A

Year.	Average strengths of command.	Incidence per 1,000 of strength.	
		Fresh cases of sickness.	
		48-hour cases included.	48-hour cases excluded.
1921	1,798	3,081	1,198
1922	1,703	2,577	665
1923	1,896	2,020	502
1924	1,912	1,628	640
1925	1,959	1,248	659
1926	1,963	1,346	778
1927	1,976	1,429	732
1928	1,915	1,205	602
1929	2,101	1,187	681
1930	2,085	1,016	674
1931	2,144	918	572
1932	2,062	951	544
1933	2,109	920	572
1934	2,110	823	491
1935	2,042	784	492

It is interesting to note that one-third of the total sick was treated in sick quarters, thus lessening hospital costs and giving practical

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experience to medical personnel. The sickness-rate was highest during the period May–September, the peak being in May. The sickness-rate at all stations was in much the same proportion, with the exception of Quetta where, chiefly owing to the earthquake, it was about double that of other stations.

(iii) (*a*) *Communicable diseases.*—There has been a marked decrease in the incidence of all these diseases in this command since 1921. The figures set out in table B pay tribute to the maintained improvement of both hygiene and sanitation, for there is a lessening of insect-borne diseases, food and water-borne infections, and venereal disease.

TABLE B

TABLE SHOWING THE INCIDENCE OF MALARIA, PHLEBOTOMUS FEVER, DYSENTERY, ENTERIC GROUP AND VENEREAL DISEASES IN THE ROYAL AIR FORCE IN INDIA FOR THE YEARS 1921–1935 INCLUSIVE.

Year.	Average strength.	Incidence of cases per 1,000 of strength.				
		Malaria.	Dysentery.	Phlebotomus fever.	Enteric group.	Venereal diseases.
1921 ..	1,798	338	48	165	4·0	55
1922 ..	1,703	196	22	51	4·0	39
1923 ..	1,896	202	18	26	2·6	21
1924 ..	1,912	229	4	44	1·6	27
1925 ..	1,959	236	8	62	6·1	18
1926 ..	1,963	330	16	46	1·0	15
1927 ..	1,976	284	15	43	2·0	18
1928 ..	1,915	145	12	51	2·6	14
1929 ..	2,101	185	10	56	10·0	15
1930 ..	2,085	140	18	73	3·4	8
1931 ..	2,144	97	22	45	3·8	13
1932 ..	2,062	71	21	42	0·5	9
1933 ..	2,109	110	13	36	1·4	12
1934 ..	2,110	66	17	28	1·0	5
1935 ..	2,042	37	11	30	1·5	7

(*b*) The decreasing incidence of malaria since 1928 has coincided with the gradual introduction of mosquito-proofed buildings in the various stations; and since 1934, with the newer methods of treatment of malaria cases (viz., a combination of plasmoquin or atebrin with quinine) which tends to prevent relapses and to lessen the number of gametocyte carriers capable of infecting mosquitoes.

(*c*) *Phlebotomus fever* occurred chiefly from May to August, and 80 per cent. of the cases contracted the infection in North West Frontier stations.

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(*d*) *Dysentery* occurred mainly from April to June and was bacillary in type, the causal organism was isolated in 70 per cent. of the cases, the remainder being diagnosed clinically. All stations appeared to be equally affected.

(*e*) *Jaundice* of a mild catarrhal type was evenly distributed throughout all stations, there being 19 cases in all. There was no incidence of leptospiral infection.

(*f*) *Smallpox.*—There was one case of smallpox at Karachi—an officer who had been vaccinated. The infection was mild and recovery was uninterrupted.

102. **Iraq.**—(i) The *average strength* of this command during 1935 was 2,020.

(ii) *Climatology.*—Very little rain fell in the winter 1934–35, consequently dust storms were very severe and more frequent than usual during the summer. The average maximum and minimum temperatures for the year were 3° F. higher than the averages for the past ten years. The extreme maximum shade temperature recorded in 1935 was 121° F. Associated or coincident with this high temperature were 9 cases of severe heat effects, one of which proved fatal. All these cases occurred in July and August when the maximum temperature was over 115° F.

(iii) *Communicable diseases.*—No outbreak of infectious disease occurred during the year either among the British Forces or Iraq Levies. An outbreak of smallpox occurred in the Persian Gulf at Sharjah; this had indirect connection with the Royal Air Force inasmuch as the aerodrome and rest-house are used regularly by Royal Air Force and Imperial Airways personnel. In this district there were approximately 700 cases with 90 deaths in one week, so that immediate steps had to be taken to prevent infection of the aerodrome personnel. Vaccination of the entire staff, who had not been successfully vaccinated during the last year, was carried out, and it was made compulsory for all personnel visiting the Persian Gulf to be re-vaccinated, if they had not been vaccinated during the previous two years. All natives engaged in handling and serving food at R.A.F. stations in Iraq were bacteriologically examined during the year and of 806 employed, 218 had to be withdrawn from duty on account of being carriers of diseases, especially dysentery and worm infection of the gut.

(iv) *Buildings.*—The construction of the new station at Dhibban has proceeded apace. As there was a large number of natives employed in this construction work, it was necessary, on health grounds, to provide one civil medical practitioner, one nursing orderly, one sanitary assistant and 3 native dressers. There were no epidemics at this station during the year, which testifies

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to the adequacy of the sanitation. The work completed at the end of the year was as follows :—

(*a*) All old irrigation trenches were filled and the whole area levelled.

(*b*) The main irrigation system was practically completed.

(*c*) Roads were laid out and bordered by irrigation ditches and trees.

(*d*) New bunds were constructed and old ones strengthened.

(*e*) The site was completely enclosed with about 6½ miles of fencing.

(v) *The water supply* to all stations was maintained at a high standard of purity by means of chloramination. Thus, of 1,860 samples tested bacteriologically, only 45 or 2·4 per cent. were classed as unsatisfactory. As regards mineral waters, 1,466 samples were tested and 20 of these or 1·4 per cent. were rejected as being below the bacteriological standard of purity. Only 2 samples of ice of the 163 examined were found to be below standard.

(vi) HINAIDI *and* MOSUL.—Practically no new works were carried out at these stations on account of the move to Dhibban in the near future.

(vii) SHAIBAH.—New buildings completed during 1935 were as follows :—

A barrack block, sergeants' mess, sergeants' quarter, photographic block, guard-room and armoury.

In addition, the institute was enlarged and reconstructed; the sullage scheme was reconstructed. A new swimming bath is in course of construction.

(viii) MARGIL.—A new swimming bath was completed.

103. **Malta.**—(i) The *average strength* of this command was 787, but excluding the Fleet Air Arm it was 575. The *general health* was very good, and there was no epidemic which affected service personnel. In January there was a widespread epidemic of measles throughout the island and many of the children of R.A.F. personnel were infected. Whooping cough, mainly of a slight nature, produced a few cases among the children in June and July, while during the bathing season in August there was a widespread infection of impetigo contagiosa.

(ii) The incidence of *phlebotomus fever* continued to be low, 17 per 1,000, although higher than the previous year, the increase being probably due to an increased number of newcomers. It is interesting

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to note that the incidence of this disease among personnel not living in service quarters was 39 per 1,000, whereas, among personnel living in service quarters it was only 13 per 1,000, pointing to the efficacy of anti-sandfly measures adopted at R.A.F. stations.

104. **Middle East Command.**—(i) *Climatology.*—Egypt and Palestine experienced a heat wave in January, heavy rain and gales early in February, followed by further heat waves in the middle of February and the end of April. The summer, however, was remarkably cool. There were heavy thunderstorms which caused severe floods in upper Egypt in October. This was followed by very cool weather.

(ii) *The general health* of the command was good. The monthly incidence of sickness was low during the first seven months (about 35 per 1,000) rising to a peak in August in Palestine and Transjordan (65 per 1,000) and in November in Egypt and Khartoum (66 per 1,000). The invaliding rate compared favourably with previous years, and it is interesting to note that of the 41 cases invalided, one only was for endemic disease, viz., malaria.

(iii) (*a*) *Communicable diseases* still show a low incidence, considerably lower even than the past two years—the rates per 1,000 for 1935, 1934 and 1933 being 42·2, 60·7 and 69·6 respectively. Though enteric fever and dysentery are endemic in the command, there were no cases of enteric and only 16 of dysentery, chiefly the bacillary type. There were 14 cases of jaundice, apparently catarrhal in type ; these occurred scattered throughout most units. There were 73 cases of primary malaria and 23 relapse cases, giving a total of 96 and an incidence of 28·5 per 1,000, compared with 48·0 per 1,000 in 1934 and with 39·8 per 1,000, which is the mean incidence in the last 10 years. There was one fatal case of cerebro-spinal meningitis at Khartoum, and in this connection it should be noted that the number of cases of this disease among the civil population in the Sudan has risen from 274 in 1933 to 3,307 and 3,087 in 1934 and 1935 respectively.

(*b*) *Whooping-cough.*—In November there was a small outbreak of whooping cough (coincident with an epidemic of sub-acute pharyngitis) among the younger children of airmen in Aboukir. This was rapidly controlled by the closure of the school and the use of anti-pertussis vaccine.

(*c*) *Venereal disease* still continued to decrease, the incidence being 18·7 per 1,000, which compares favourably with the years 1934 and 1933 when the incidences were 24·4 and 29·8 respectively. For comparison it should be noted that the average incidence of venereal disease for all R.A.F. commands abroad was 19·5 per 1,000. Despite this lowered incidence of venereal disease the number of days non-effective sick increased considerably.

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(iv) *The water supply* is now adequate and safe in all stations in the Middle East Command, except at Jerusalem where the supply is limited, and at Sarafand where hyperchlorination has been necessary in order to deliver by pipeline to Ramleh a bacteriologically good water. Chloramination apparatus is being introduced to rectify this defect. At Abu Sueir a trial is being made with a Norton tube well close to the existing filtration plant.

(v) *Food.*—Menus were varied and well balanced for climatic conditions in all stations except in the Sudan, where there was a deficiency of fat in the fresh meat and where fruit and fresh vegetables were hard to obtain. To overcome this deficiency, ground nuts were added to the dietary.

(vi) *Conservancy.*—The water-borne drainage system at the R.A.F. General Hospital, Sarafand, was practically completed during the year. The only stations in Middle East in which bucket latrines are still used are Helouan, Khartoum and Ma'an.

(vii) *Cruises.*—The South African cruise left Heliopolis on 24.4.35 for Pretoria and returned on 15.6.35. No medical officer or medical orderly accompanied the flight. All personnel were medically examined and rendered dentally fit, also inoculated against enterica, plague and smallpox. They were also given 5 grains of quinine daily as a prophylactic measure while in malarial districts. During the cruise only 3 cases of sickness occurred, none of which necessitated more than 24 hours off duty.

Pathology and Tropical Medicine

105. (i) *General.*—The total number of routine specimens examined in the R.A.F. pathological and clinical laboratories in the United Kingdom and abroad during 1935 was 54,885 as compared with 63,840 the previous year. A synopsis of the work done in each laboratory is shown in table XXVIII, page 100. At Halton, the central laboratory was considerably enlarged to cope with increasing needs, especially as regards teaching. The unit was re-named " R.A.F. Institute of Pathology and Tropical Medicine ".

(ii) *Teaching.*—At the R.A.F. Institute of Pathology and Tropical Medicine, Halton, 2 officers received advanced instruction in pathology, bacteriology and tropical medicine, and 34 newly recruited medical officers were given a three-months' course in pathology, hygiene and tropical medicine. Two airmen received a year's special training in general laboratory work for the trade of laboratory assistant. Instruction in hygiene and sanitation is dealt with under the heading " hygiene," para. 91.

(iii) *Researches.*—(*a*) At Halton, experimental work in connection with the prophylactic value of dissolved anti-typhoid vaccine, as prepared by the Glaxo laboratories, was begun in 1934 and completed

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in 1935. The solvent used was sodium lauryl sulphate. Tests were made to compare this dissolved vaccine with the ordinary exalted T.A.B. vaccine, and the conclusions arrived at were as follows :—

Dissolved T.A.B. vaccine produced immunity equal to that of ordinary T.A.B. vaccine when injected intraperitoneally into mice, and gave considerably less shock reaction.

When inoculated into man, the dissolved vaccine gave considerably less reaction, both local and general, than the ordinary vaccine.

Dissolved vaccine was inferior in the production of agglutinins, both O and H, to the ordinary T.A.B. vaccine.

These two types of vaccine were co-equal as regards the production of bacteriocidins in the blood sera of inoculated individuals.

No definite correlation was found between the O or H agglutinin titre and the bacteriocidal potency in the human sera tested.

Both the dissolved and the ordinary T.A.B. vaccine produced anti-bodies in the human sera which protected mice against lethal doses of living typhoid and paratyphoid bacilli in approximately equal degree.

The dissolved type of vaccine, therefore, appeared to be as efficient an immunogenic agent as the ordinary T.A.B. vaccine, and it produced far less reaction.

(*b*) In Iraq, investigations were made regarding the blood state of healthy officers and airmen who had been in that country for six months or more, to discover what leucocyte changes, if any, occurred during their sojourn in a warm climate. During June, 1935, the blood of 134 airmen stationed at Hinaidi was examined. There was found to be a marked deviation of the Arneth or polymorph index to the left, similar to that previously reported as occurring in the indigenous population, i.e., Arabs, Kurds and Jews. The deviation, expressed as the weighted mean, ranged from 1·35 to 2·5 as compared with the accepted British health standard of 2·15 to 3·15. A number of apparently healthy rabbits were examined and a similar shift to the left was found. These changes are thought to be due to climatic influences. A full report of this work was published in the Transactions of the Royal Society for Tropical Medicine, November, 1935. Leucocyte counts were done on 40 cases of phlebotomus fever and showed an extremely low polymorph index, namely, 1·05 to 1·3.

(iv) *Publications.*—" Medical notes and first aid treatment for flights in the Tropics and Sub-Tropics" (Air Publication 1486) was revised and extended.

Surgery

106. (i) *General.*—During the year 1935, surgical work increased and satisfactory results were obtained. New items of surgical

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equipment obtained include a blower and sucker apparatus, and an electrical plaster cutting saw. An electrically-driven blood transfusion apparatus was tested during the year and found to work in a very satisfactory manner; by means of it direct transfusion can be employed, no citrate solution being required. The apparatus can also be used in a reverse manner for drainage purposes and thus several cases of empyema were drained with satisfactory results.

(ii) *Surgical operations.*—During 1935, the following surgical operations were carried out in R.A.F. hospitals and sick quarters at home and abroad :—

	Major.	*Minor.*	*Total.*
Home	541	1,243	1,784
Abroad	198	1,292	1,490
At home and abroad ..	739	2,535	3,274

(iii) *Anaesthetics.*—(*a*) A total of 1,259 general anaesthetics was administered during the year under review. The forms of general anaesthetic used were :—

Nitrous oxide	341
Nitrous oxide, oxygen and ether	247
Chloroform and ether	245
Evipan	150
Nitrous oxide and oxygen	83
Ether	63
Ethyl chloride and ether	55
Ethyl chloride	41
Various other combinations of drugs	34
Total	1,259

(*b*) Percaine was used to induce spinal anaesthesia for 12 cases.

(*c*) The local anaesthetics most frequently employed in R.A.F. hospitals were novutox, cocaine and novocaine and in sick quarters, ethyl chloride. These figures do not include anaesthetics used in connection with dental surgery.

(iv) *Radiological departments.*—The following table records the radiological work carried out by R.A.F. medical units during the year :—

	Home.	*Abroad.*	*Total.*
General	3,664	1,233	4,897
Opaque meals	154	88	242
Pyelography	53	33	86
Cholecystography ..	24	13	37
Opaque enemata	17	2	19
Chest (Lipiodol)	6	2	8
Total	3,918	1,371	5,289

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These figures do not include radiological examinations in connection with dental work.

(v) *Massage and electro-therapeutic departments.*—The following treatments were carried out in R.A.F. hospitals at home and abroad :—

	Home.	*Abroad.*	*Total.*
Massage treatments and exercises	13,213	9,898	23,111
Electrical treatments (excluding radiant heat) ..	5,537	4,485	10,022
Radiant heat	3,339	2,410	5,749

These figures include both patients under treatment in hospital and out-patients.

(vi) *Ear, nose and throat departments.*—(*a*) *Operations.*—The following ear, nose and throat operations were carried out in R.A.F. hospitals and sick quarters during the period under review :—

	Home.	*Abroad.*	*Total.*
Enucleation of tonsils and adenoids	167	10	177
Proof puncture of maxillary sinuses	120	17	137
Intranasal antrostomy ..	20	6	26
Submucous resection of septum	21	2	23
All others	60	9	69
Total	388	44	432

(*b*) *Anaesthetics.*—The following anaesthetics were administered in connection with the ear, nose and throat operations :—

	Home.	*Abroad.*	*Total.*
General anaesthesia ..	155	13	168
Local anaesthesia	163	29	192
Evipan	70	2	72
Total	388	44	432

Medical Training Depôt

107. (i) During the year, 34 medical and 6 dental officers were given preliminary training on first appointment to commissions. Of these, 25 medical and 4 dental officers successfully completed the courses, while 8 medical and 2 dental officers were still under training at the end of the year.

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(ii) One hundred and twenty-eight airmen, all of whom enlisted for the medical branch, were placed under training. Three of these were remustered to A.C.H. Group " 5," as unlikely to prove efficient medical airmen, 94 successfully passed out of the Medical Training Depôt, and 31 were still under training at the end of the year.

(iii) During the year, 277 airmen of the medical and dental branches presented themselves at the various trade tests for reclassification, remustering, extra qualification and promotion. Of these, 231 were successful, and of the 46 failures, 15 were candidates for reclassification, and can therefore be regarded as partial failures only.

Physical efficiency of Serving Officers, Cadets and Airman Pilots of the Royal Air Force

108. (i) Four thousand, one hundred and fifty-four officers, cadets and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches during the year 1935. This number consists of 2,205 officers of the general duties branch liable for flying duties as pilots of aircraft and 456 not so liable on account of age or type of employment ; 740 officers of the ancillary branches who are only required to be fit for general service and to fly as passengers ; 110 cadets and 643 airman pilots who should be fit for full flying duties.

(ii) Of the 2,205 officers of the general duties branch liable for flying duties as pilots, 94 per cent. were found fit for flying duties, i.e., as pilots without any restrictions. Of these 2,205 officers, 1,523, who were under 30 years of age, were required to be fit for full flying duties as pilots, and 1,469 or 96 per cent. reached this standard. Of the 682 officers over 30 years of age, 611 or 89 per cent. were also fit for flying duties as pilots without any restrictions. Table XXIII, page 94, compares the percentages of officers of the general duties branch liable for flying duties, found fit for full flying duties in the years 1922 to 1935 inclusive. The high fit percentage, i.e., 94 in 1935 is considered satisfactory. Tables XXIV and XXV, pages 95 and 96 respectively, analyse the responses to the standard physical efficiency tests of the officers of the general duties branch liable for flying duties. Table XXVI, page 98, under certain headings, analyses the unfitness of the 125 officers of the general duties branch liable for full flying duties, but, owing to medical reasons, not reaching the desired standards. It shows that medical and surgical conditions were the most common causes of unfitness and that defects of vision, although not as numerous, were a frequent cause of disability. Of these 125 officers unfit for full flying duties, 40 were fit for service both at home and abroad and 85 for home service only. Of the 40 fit for home and overseas service, 29 were fit for restricted flying duties as pilots. Of the 85 fit for home service only, 26 were fit for full flying duties and 25 for restricted flying duties as pilots.

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These restrictions normally apply to duration and altitude of flight, aerobatics, or type of aircraft to be piloted. Thus 64 per cent. of those categorised as unfit for full flying duties at home and abroad were fit for limited flying duties. Of the 2,205 officers liable for flying duties, 94 per cent. were fit to pilot aircraft. Four hundred and fifty-six officers of the general duties branch over 40 years of age, in whom fitness for flying as pilots of aircraft is not essential, were examined during the year. Of these 71 per cent. were found fit for full flying duties, and 12 per cent. for limited flying duties, making a total of 83 per cent. fit as pilots of aircraft. Twelve per cent. were fit for full ground duties at home and abroad and 5 per cent. fit for full ground duties in the United Kingdom only. This shows an improvement as compared with 1934 when 68 per cent. were fit for full flying duties and 83 per cent. as pilots of aircraft.

(iii) Of 110 cadets examined during the year as to their fitness to fly as pilots, all were found fit for full flying duties. This compares with 97 per cent. in 1934. Tables XXIV and XXV, pages 95 and 96 respectively, analyse the responses of the cadets to the standard physical efficiency tests.

(iv) Of 643 airman pilots, 98·5 per cent. were fit for full flying duties, the remainder, 1·5 per cent., were restricted to home service only, or as regards aerobatics, altitude or duration of flight, at the date of the examination. Tables XXIV and XXV, analyse the responses of the airman pilots to the standard physical efficiency tests.

(v) During 1935 seven hundred and forty officers of branches other than the general duties branch, who must be fit for general service and to fly as passengers, were examined and 97 per cent. were found fit for their full duties, 2 per cent. fit for full duties in the United Kingdom only, and the remaining one per cent. unfit. This shows little change from 1934.

Princess Mary's Royal Air Force Nursing Service

109. During 1935 the average strength of the service was 108. Thirty members—14 at home and 16 abroad—were admitted to hospital, representing 778 days' sickness, or an average of 7·2 days per member compared with 7·0 in 1934 and 6·0 in 1933; the average number of sick daily was 2·1 in 1935 compared with 2·0 in 1934 and 1·8 in 1933. Two members were invalided from abroad to the United Kingdom. There were no invalidings from the service, or deaths during the year.

Summary of Medical Examination of Recruits

110. (i) During the first five months of 1935 all airman recruits, prior to acceptance into the service, were medically examined at the London Recruiting Depôt, either as direct applicants or, after a preliminary medical examination, by civil medical practitioners in

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the provinces or medical officers at R.A.F. stations. Only candidates who were considered to be fit, or on the borderline, were sent to London for their final examination. During June and July recruiting depôts were opened at Belfast, Birmingham, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Plymouth and Portsmouth, and civilian medical officers, who were responsible for the final medical examination of all airmen recruits in their area, were appointed to each depôt. Except for the alteration of procedure detailed above, the recruiting arrangements of the London Recruiting Depôt remained unchanged. Candidates for attestation as aircraft apprentices, apprentice clerks and boy entrants were examined at Halton, Ruislip and West Drayton respectively, by R.A.F. medical officers under the direction of the principal medical officers of the respective commands.

(ii) (*a*) During 1935 medical examinations were carried out on 20,431 candidates for enlistment as airmen; of these 11,120, or 54·4 per cent. were finally found fit for general service, and 1,624, or 7·9 per cent. had not proceeded to a recruiting depôt for final examination by the end of the year.

(*b*) At Halton 84 per cent. of 1,782 candidates were found fit as aircraft apprentices as compared with 78 per cent. in 1934.

(*c*) At Ruislip 190 candidates were examined as to fitness for entry as apprentice clerks and 80 per cent. were found fit as compared with 70 per cent. in 1934.

(*d*) Of 713 applicants examined at West Drayton as to their fitness as boy entrants, 72 per cent. were accepted as fit compared with 77 per cent. in 1934.

(*e*) During the year under review 8,614 recruits were attested as airmen; these together with 1,502 aircraft apprentices, 152 apprentice clerks and 511 boy entrants make a total entry of 10,779 compared with an intake of 2,706 during 1934.

(iii) Civilian medical practitioners in the provinces carried out preliminary medical examinations on 6,931 candidates for enlistment as airmen, of whom 2,839 or 40·9 per cent. were found to be unfit compared with 44 per cent. in 1934 and 41 per cent. in 1933. Of those found fit 2,658 attended a recruiting depôt for final examination where 20·3 per cent. were rejected. In 1934, 20 per cent. and in 1933, 21 per cent. were rejected at the final examination.

(iv) At 26 R.A.F. stations 608 candidates for enlistment as airmen received a preliminary medical examination. Of the number examined 38 per cent. were found unfit for service compared with 37 per cent. in 1934 and 27 per cent. in 1933. Of those found fit at the preliminary examination 192 attended a recruiting depôt for final examination where 24 per cent. were rejected compared with 20 per cent. in 1934 and 1933.

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(v) During the year under review 12,892 candidates who had not been given a preliminary medical examination, were examined at the various recruiting depôts formed in June and July, and of these 30·7 per cent. were found to be unfit compared with 36 per cent. in 1934 and 39 per cent. in 1933. Of 11,120 candidates fit for entry as airmen 11·1 per cent. were found to be defective in colour vision compared with 10 per cent. in 1934, and 32·6 per cent. had not been vaccinated compared with 32 per cent. in 1934.

(vi) During the year 23 airmen and aircraft apprentices, having less than six months' service, were invalided from the service on account of the following disabilities :—

Chronic suppurative otitis media	2
Concussion (effects of)	1
Epilepsy	1
Hypochondriacal depression	1
Nasal obstruction	1
Nephritis	1
Pleurisy	2
Pulmonary tuberculosis	2
Rheumatic carditis	9
Schizophrenia	3

These invalids each received an average of 95 days' treatment. In addition to the number invalided, 61 airmen and 3 apprentices were discharged as unlikely to become efficient on medical grounds. Of the 64 so discharged 40 received medical treatment amounting to an average of 22·6 days each. The disabilities of those receiving treatment were as follows :—

Choroido-retinitis (acute)	1
Disordered action of the heart	1
Duodenal ulcer	1
Dyspepsia	1
Effort syndrome	1
Enuresis	1
Epilepsy	11
Hodgkins' disease	1
Megacolon	1
Migraine	1
Nephritis	2
Neuroses	9
Old injury (result of)	3
Prostatitis (chronic)	1
Renal calculus	1
Rheumatic carditis	1
Somnambulism	1
Syncope	1
Valvular disease of the heart	1

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Royal Air Force Reserve

111. (i) The strength of the R.A.F. Reserve of officers and airman pilots at the end of 1935 was 1,817, composed of the following classes:—

(*a*) CLASS " A " (General duties)	910
(*b*) CLASS " B " (Ground duties, including Stores branch)	79
(*c*) CLASS " C " (General duties, employed overseas, and over age)	399
(*d*) CLASS " C " (Accounts branch)	15
(*e*) CLASS " D " and " DD " (Medical branch) ..	40
(*f*) CLASS " D " (Dental branch)	4
(*g*) AIRMAN PILOTS (Reserve Class " E ") ..	54
(*h*) AIRMAN PILOTS (Reserve Class " F ") ..	316

" Class ' C ' (General duties, employed overseas, and over age) " consists of officers fit both for flying duties and for ground duties only. Many of the former are class " B " Civil Flying licencees and hold appointments abroad.

(ii) In 1935 annual medical examinations were carried out on 1,010 flying personnel. For various reasons it was necessary to hold medical boards on 96 pilots of whom 41 were found to be temporarily unfit for flying duties and 4 permanently unfit for further service in the Reserve.

(iii) During the period under review thirty-five officers or airman pilots were non-effective sick, representing three hundred and sixty days' sickness ; this number includes eleven 48-hour cases.

(iv) One member of the Reserve Class " E " and one of the Reserve Class " F " were involved in flying accidents while undergoing training, and as a result received a total of one hundred and fifty-seven days' treatment in hospital. In addition, 2 members of the Reserve Class " A " and 4 of the Reserve Class " F " were involved in flying accidents, which did not necessitate Hospital treatment exceeding 48 hours. There were no fatalities in the course of training or routine flying duties.

(v) Two hundred and six officers of the Reserve extended their service during 1935.

Transfer of Casualties by Air

112. (i) During 1935 a total of 282 patients were evacuated by air in 164 flights over 46,995 miles as compared with 1934 when 173 patients were evacuated in 122 flights over 28,516 miles. The figures for the year under review do not include those for India which are shown separately below.

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(ii) In *England* two patients were evacuated by air from Hawkinge to Halton for admission to hospital.

(iii) In the *Middle East Command*, 72 patients were carried in 47 flights, 19 of which were at the request of the medical authorities. The remaining flights were routine, advantage being taken of the presence of aircraft on other service duties at the stations from which it was desired to evacuate patients. A total of 14,876 miles was covered involving 171 flying hours.

The types of aircraft used and the numbers of patients evacuated in each were as follows :—

Gordon 22, Singapore 2, Valentia 10, Victoria 36 and Vincent 2.

The Neil Robertson stretcher was used on 4 occasions and the Universal stretcher sheet on 6 occasions, both in Gordon aircraft, the remainder of the patients travelling as sitting cases.

(iv) In the *Iraq Command*, 202 patients were carried in 112 flights, 36 of which were at the request of the medical authorities. A total of 30,477 miles was covered involving 333 hours of flying. The types of aircraft used and the numbers of patients carried in each were as follows :—

Hardy 2, Rangoon 2, Victoria 175, Vincent 14, Wapiti 9.

Six patients were evacuated in Neil Robertson stretchers which were carried on each occasion in Wapiti aircraft, the remaining patients were moved as sitting cases. Three flights of particular interest were carried out during the year :—

(*a*) In February, a naval rating requiring hospital treatment was transferred from a naval vessel operating in the Persian Gulf near the Elphinstone Inlet, to a flying boat, and evacuated to the R.A.F. General Hospital, Hinaidi, a distance of approximately 900 miles.

(*b*) In December the wireless operator of a survey party working at Masirah, South Arabia, was reported to be dangerously ill. A medical officer proceeded by air from Basra, a distance of approximately 1,050 miles, and the patient was successfully evacuated to Muscat Civil Hospital.

(*c*) In December an outbreak of smallpox was reported at Sharjah, an Imperial Airways Resthouse on the Persian Gulf. A medical officer was immediately conveyed there by air to vaccinate the personnel of Imperial Airways and to investigate the outbreak.

(v) In the *Aden Command*, 5 patients were evacuated to hospital in 5 flights, 2 of which were at the request of the medical authorities, and a total of 1,642 miles was covered in 17 hours. One patient was carried in a Neil Robertson stretcher, the remainder travelling

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as sitting cases. One flight of particular interest was carried out during the year :—

A naval rating, requiring special treatment for a serious injury of an eye, was carried by flying boat to Port Sudan, where he was transferred to an aircraft of the Middle East Command and taken to Khartoum, a total distance of approximately 1,150 miles, for admission to hospital. The injury was successfully treated and the patient made a satisfactory recovery.

During the course of the year several seriously ill notables of the Protectorate were visited by R.A.F. medical officers accompanying aircraft on routine inspections of landing grounds.

(vi) In *India* a considerable amount of work was carried out by aircraft as a result of the Quetta earthquake. During the period 1st–20th June, the following were conveyed by air to Quetta from Risalpur, Peshawar, Kohat, Lahore, Ambala and Karachi by Hart, Wapiti and Victoria aircraft, thirteen aircraft in all being used :—

One medical unit.
15 medical officers.
11 nurses.
12,750 lbs. medical stores and tinned food.
4,300 lbs. clothing.
Anti-tetanic serum in considerable quantities.

During the same period the following evacuations were made by air from Quetta to Karachi, Lahore and Risalpur in 775 flying hours :—

Adults.	*Children.*	*Total.*
88	48	136

Three stretcher cases, carried from Quetta to Karachi, are included in the above figures, the aircraft used being a Victoria. The majority of passengers who travelled as sitting cases were suffering from the effects of minor injuries or shock.

Apart from the work done in connection with the earthquake only one patient, a member of the Chitral Force, was evacuated by air during the year. He was transferred as a sitting case in a Hart aircraft from Drosh to Risalpur.

One flight of particular interest was carried out during the year, when 2 Hart aircraft flew to Gilgit with plague vaccine for delivery to Kashgar in Chinese Turkestan.

(vii) In the *Far East Command* a Southampton flying boat conveyed two civil surgeons from Singapore to Rengat, Sumatra, at the request of the Dutch Consul General in order to perform a surgical operation on a Dutch government official.

There were no patients carried by air in the command during the year.

(viii) In the 10-year period, 1925–1934, a total of 1,336 patients was carried by R.A.F. aircraft in all commands.

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Dental Treatment

113. (i) The standard of oral hygiene of recruits and aircraft apprentices on enlistment, during the year under review, is classified as follows :—

Recruits

	per cent.		per cent.	
Good ..	34·5		37·0	
Fair ..	59·0	compared with	43·0	for the previous year.
Neglected ..	6·5		20·0	

Aircraft apprentices

	per cent.		per cent.	
Good ..	21·0		39·5	
Fair ..	66·5	compared with	47·5	for the previous year.
Neglected ..	12·5		13·0	

(ii) The percentage of aircraft apprentices and boys found free from dental caries on entry was 3·3 compared with 3·5 for the previous year, and the percentage in regard to recruits was 1·1 compared with 4·1. The average number of fillings required per head was 5·3 for aircraft apprentices and boys and 4·9 for recruits as compared with 6·5 and 3·8 respectively for 1934. The average number of extractions for aircraft apprentices and boys was 0·4 and for recruits 0·7 per head compared with 0·6 and 0·7 respectively for the previous year.

(iii) (*a*) The total number of fillings completed by dental officers during 1935 for service personnel was 33,882, and for members of the Princess Mary's Royal Air Force Nursing Service and for wives and families 2,102 giving a total of 35,984, or an increase of 1,138 over the previous year. Of the total number of fillings for service personnel, 28,923 were completed at home and 4,959 abroad as compared with 26,053 and 7,113 respectively in 1934. The increase in the number of fillings at home was due to a slight increase in the number of dental officers and some lengthening of their hours of work during the expansion period.

(*b*) The total number of extractions completed by dental officers during 1935 for service personnel was 10,885 and for members of the Princess Mary's Royal Air Force Nursing Service and for wives and families 2,501 giving a total of 13,386 or an increase of 1,497 over 1934. The increase for serving personnel was 1,706 extractions. Of the total number of extractions for service personnel 9,554 were completed at home and 1,331 abroad as compared with 7,497 and 1,682 respectively in 1934.

(iv) Four hundred and four X-ray film exposures were made in connection with treatment at the Uxbridge Depôt Dental Centre.

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(v) *Anaesthetics.*—Nine hundred and twenty-six general anaesthetics were administered during the year as follows :—

	Nitrous Oxide.	Ethyl Chloride.	Chloroform and ether.	Evipan.	All others.	Total.
At Home ..	694	23	9	23	29	778
Abroad	84	34	22	7	1	148
Total	778	57	31	30	30	926

(vi) Table XXIX, page 101, gives an analysis of all dental work completed at home and abroad.

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TABLE XIX.—NUMBER OF MEDICAL EXAMINATIONS CARRIED OUT AT THE CENTRAL MEDICAL ESTABLISHMENT DURING THE YEARS 1930–1935.

Nature of medical examination.	1930.	1931.	1932.	1933.	1934.	1935.
Flying duties (General)	*163*	*372*	*397*	*284*	*559*	1,774
Medical boards	*1,117*	*1,144*	*1,132*	*1,164*	*1,118*	1,006
Cadets (applicants) ..	*196*	*234*	*294*	*312*	*393*	405
Reserves (applicants) ..	*145*	*131*	*157*	*208*	*370*	553
Airman pilots	*81*	*115*	*107*	*46*	*85*	773
Ground duties	*134*	*170*	*167*	*148*	*73*	123
Civil pilots	*577*	*673*	*799*	*892*	*871*	1,070
Annual confidential reports	*143*	*142*	*140*	*141*	*130*	159
Civil personnel	*150*	*51*	*64*	*47*	*83*	151
Consultant reports ..	—	*124*	*77*	*59*	*53*	52
Total	*2,706*	*3,156*	*3,334*	*3,301*	*3,735*	6,066

TABLE XX.—RESULTS OF 2836 MEDICAL EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 2437 CANDIDATES FOR FLYING DUTIES 1935.

Class of candidate.	Number fit.	Number rejected.		Total.	Percentage fit.
		Permanently.	Temporarily.*		
Cadets	194	50	10	254	77
Airman pilots	405	224	68	697	58
Short service commissions	826	459	110	1,395	59
Fleet Air Arm	21	2	2	25	84
Secondments from Army	5	0	0	5	100
Permanent commissions (University nominations)	43	11	7	61	71
Totals	1,494	746	197	2,437	61

* These cases were still temporarily unfit at the end of 1935.

Note. This table includes examinations of individuals who did not necessarily enter the Royal Air Force e.g. preliminary examinations for the Cadet College, Cranwell.

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TABLE XXI.—CANDIDATES ACCEPTED FOR FLYING DUTIES.

Average physical efficiency tests and measurements recorded at the Central Medical Establishment.

Nature of tests.	Unit of measurement.	All classes of candidates : average result of tests. (Numbers entering the Royal Air Force in each period are shown in brackets.)						
		1925–29 (2,033)	1930 (406)	1931 (293)	1932 (312)	1933 (216)	1934 (404)	1935 (861)
Standing height	Feet and inches	*5′ 9·0″*	*5′ 9·1″*	*5′ 9·3″*	*5′ 9·1″*	*5′ 9·4″*	*5′ 9·6″*	5′ 9·1″
Weight	lbs.	*142*	*144*	*147*	*145*	*146*	*148*	145
Chest	Inches	*34·2″*	*34·0″*	*35·0″*	*34·1″*	*34·6″*	*34·6″*	34·7″
Vital capacity	Cc.	*4,921*	*4,991*	*5,053*	*4,898*	*5,033*	*5,104*	5,047
Breath-holding	Seconds.	*78·8*	*82·2*	*84·9*	*83·6*	*86·3*	*82·8*	83·8
Expiratory force	Mm. Hg.	*139·5*	*134·1*	*144·3*	*144·9*	*138·0*	*139·8*	139·9
Fatigue test	Seconds.	*65·8*	*69·4*	*73·0*	*68·1*	*69·9*	*68·2*	68·1
Systolic pressure	Mm. Hg.	*129·9*	*131·1*	*131·2*	*133·7*	*130·5*	*130·0*	131·3
Diastolic ,, ...	Mm. Hg.	*79·0*	*78·1*	*80·1*	*80·7*	*74·9*	*75·8*	77·1
Pulse rate :—								
Sitting	Per min.	*72·1*	*71·9*	*70·4*	*72·1*	*71·6*	*72·3*	72·0
Standing (first five secs.)	,, ,,	*	*	*	*	*94·5*	*94·6*	92·3
**Standing (lowest steady rate)	,, ,,	*79·9*	*81·7*	*80·8*	*83·1*	*81·9*	*81·5*	81·4
After exercise ..	,, ,,	*104·8*	*105·5*	*103·3*	*106·9*	*106·6*	*106·4*	106·5
Time taken to return to normal	Seconds.	*29·9*	*32·7*	*32·1*	*31·9*	*32·4*	*31·7*	36·1

* Not recorded prior to 1933.

** Comparable with " pulse, rate, standing " of reports prior to 1933.

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TABLE XXII.—CAUSES OF REJECTION, ON MEDICAL GROUNDS, BY THE CENTRAL MEDICAL ESTABLISHMENT—1935.

	(1) Vision.		(2) Ear, nose, and throat.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1) (2) (3) with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	1	4	—	1	5	4	—	—	1	6	7	15
Short service commissions ..	11	152	15	10	62	149	9	97	14	57	111	465
Cadets	4	16	2	—	4	19	—	9	—	6	10	50
Reserves	—	59	2	2	9	46	3	25	2	19	16	151
Airman pilots ..	2	59	16	9	37	93	3	32	10	31	68	224
Auxiliary Air Force	—	—	—	—	—	—	—	—	1	—	1	—
Fleet Air Arm ..	1	1	—	—	—	1	1	—	—	—	2	2
Princess Mary's Royal Air Force Nursing Service..	—	5	1	—	2	—	—	—	—	—	3	5
Preliminaries for commissions and cadets	—	1	—	1	1	1	—	1	—	—	1	4
Others	—	2	—	—	—	2	—	1	—	1	—	6
Total ..	19	299	36	23	120	315	16	165	28	120	219	922

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TABLE XXIII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE FOR FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1935	1,493	109	1,602	93
	1934	*1,342*	*138*	*1,480*	*91*
	1933	*1,368*	*152*	*1,520*	*90*
	1932	*1,483*	*136*	*1,619*	*92*
	1931	*1,435*	*163*	*1,598*	*90*
	1930	*1,457*	*137*	*1,594*	*91*
	1929	*1,424*	*201*	*1,625*	*88*
	1928	*1,330*	*205*	*1,535*	*87*
	1927	*1,308*	*188*	*1,496*	*87*
	1926	*1,375*	*191*	*1,566*	*88*
	1925	*1,401*	*154*	*1,555*	*90*
	1924	*1,384*	*168*	*1,552*	*89*
	1923	*1,330*	*196*	*1,526*	*87*
	1922	*1,181*	*173*	*1,354*	*87*
Abroad	1935	587	16	603	97
	1934	*642*	*15*	*657*	*98*
	1933	*621*	*24*	*645*	*96*
	1932	*583*	*28*	*611*	*95*
	1931	*582*	*29*	*611*	*95*
	1930	*561*	*25*	*586*	*96*
	1929	*586*	*39*	*625*	*94*
	1928	*517*	*48*	*565*	*92*
	1927	*519*	*56*	*575*	*90*
	1926	*593*	*57*	*650*	*91*
	1925	*665*	*52*	*717*	*93*
	1924	*672*	*60*	*732*	*92*
	1923	*616*	*85*	*701*	*88*
	1922	*638*	*104*	*742*	*86*
Total	1935	2,080	125	2,205	94
	1934	*1,984*	*153*	*2,137*	*93*
	1933	*1,989*	*176*	*2,165*	*92*
	1932	*2,066*	*164*	*2,230*	*93*
	1931	*2,017*	*192*	*2,209*	*91*
	1930	*2,018*	*162*	*2,180*	*93*
	1929	*2,010*	*240*	*2,250*	*89*
	1928	*1,847*	*253*	*2,100*	*88*
	1927	*1,827*	*244*	*2,071*	*88*
	1926	*1,968*	*248*	*2,216*	*89*
	1925	*2,066*	*206*	*2,272*	*91*
	1924	*2,056*	*228*	*2,284*	*90*
	1923	*1,946*	*281*	*2,227*	*87*
	1922	*1,819*	*277*	*2,096*	*87*

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TABLE XXIV.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH, CADETS AND AIRMAN PILOTS, 1935.

Nature of test.	Officers.						Cadets (110: all fit).		Airman pilots, (633 fit; 10 unfit).		Total officers, cadets and airman pilots (2,958).	
	Fit for flying duties (2,080).		Unfit for flying duties (125).		Total (2,205).							
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	766	37	48	38	814	37	65	59	199	31	1,078	36
,, present	1,314	63	77	62	1,391	63	45	41	444	69	1,880	64
Self-balancing, steady	1,976	95	113	90	2,089	95	102	93	627	98	2,818	95
,, ,, unsteady	104	5	12	10	116	5	8	7	16	2	140	5
Knee jerks—normal	1,859	89	108	86	1,967	89	93	85	582	91	2,642	89
,, ,, abnormal	221	11	17	14	238	11	17	15	61	9	316	11
Vision, 6/6 both eyes	2,024	97	114	91	2,138	97	108	98	638	99	2,884	97
,, 6/6 and 6/9; 6/9 and 6/9	40	2	6	5	46	2	2	2	5	1	53	2
,, over 6/9 in either eye	16	1	5	4	21	1	—	—	—	—	21	1
Nasopharynx—normal	2,004	96	117	94	2,121	96	106	96	619	96	2,846	96
,, abnormal	76	4	8	6	84	4	4	4	24	4	112	4
Teeth—no treatment required	1,900	91	119	95	2,019	92	107	97	567	88	2,693	91
,, treatment required	180	9	6	5	186	8	3	3	76	12	265	9
Pyorrhœa—absent	2,076	(a)	125	100	2,201	(a)	110	100	642	(a)	2,953	(a)
,, present	4		—	—	4		—	—	1		5	

(a) Present in less than 0·5 per cent of numbers examined.

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TABLE XXV.—AVERAGE RESULTS OF TESTS OF 2,080 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, 110 CADETS AND 633 AIRMAN PILOTS FIT FOR FLYING DUTIES, 1935.

——	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.				Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing (1st 5 secs.)*.	Standing. (lowest steady rate)†.	After-exercise.			
OFFICERS.			Yrs.	Lbs.	Secs.	Mm. Hg.	Secs.					Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	614	22·2	157·1	82·8	149·4	66·3	70·9	88·2	77·4	100·7	24·8	125·5	50·3
	25–30 ..	502	27·6	160·3	82·3	162·5	66·2	71·6	86·8	76·7	99·1	23·0	125·4	48·2
	31 and over	377	35·8	160·5	78·5	169·7	64·5	72·5	87·0	77·6	98·9	24·9	125·9	47·8
	All ages ..	1,493	27·5	159·0	81·6	158·9	65·8	71·5	87·5	77·2	99·7	24·2	125·6	49·0
Abroad	Under 25 ..	231	22·8	153·4	85·7	153·4	67·4	71·5	89·0	78·1	101·1	23·8	123·6	47·2
	25–30 ..	191	27·7	157·6	83·8	167·8	66·6	70·6	87·3	77·5	98·1	22·8	124·0	47·4
	31 and over	165	35·6	160·0	82·5	173·8	65·7	71·2	87·4	77·4	99·0	24·4	122·9	45·2
	All ages ..	587	28·0	156·7	84·2	163·8	66·7	71·1	88·0	77·7	99·5	23·7	123·5	46·7
Total force ..	Under 25 ..	845	22·4	156·0	83·6	150·5	66·6	71·1	88·4	77·6	100·8	24·5	125·0	49·5
	25–30 ..	693	27·6	159·6	82·7	163·9	66·3	71·3	86·9	76·9	98·9	22·9	125·0	48·0
	31 and over	542	35·8	160·4	79·7	171·0	64·9	72·1	87·2	77·6	98·9	24·7	125·0	47·0
	All ages ..	2,080	27·6	158·4	82·3	160·3	66·0	71·4	87·6	77·4	99·7	24·0	125·0	48·3

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CADETS	Under 25 ..	110	19·8	151·1	89·8	150·2	69·2	68·9	87·0	77·0	97·6	23·1	122·0	47·5
AIRMAN PILOTS.														
At home	*Under 25 ..*	*112*	*23·5*	*151·4*	*89·3*	*148·6*	*69·4*	*71·2*	*89·0*	*77·8*	*102·1*	*23·0*	*128·6*	*51·6*
	25–30 ..	*270*	*27·5*	*151·8*	*81·5*	*163·6*	*65·5*	*72·0*	*88·8*	*77·9*	*100·8*	*24·2*	*128·1*	*50·3*
	31 and over	40	*33·5*	*151·4*	*76·8*	*168·2*	*67·6*	*72·0*	*86·6*	*76·7*	*100·7*	*26·4*	*128·3*	*51·3*
	All ages ..	422	27·0	151·6	83·1	160·0	66·8	71·8	88·7	77·8	101·1	24·1	128·2	50·7
Abroad	Under 25 ..	114	23·4	147·0	81·5	135·2	64·5	73·0	89·5	80·8	105·9	24·8	128·9	50·3
	25–30 ..	81	26·8	145·9	86·5	151·3	68·6	71·2	88·1	78·8	101·2	24·1	124·3	47·7
	31 and over	16	33·3	159·4	84·4	140·9	66·0	73·9	90·0	82·5	103·5	24·2	125·1	47·7
	All ages ..	211	25·5	147·5	83·6	141·8	66·2	72·4	89·0	80·2	103·9	24·5	126·9	49·1
Total force ..	Under 25 ..	226	23·5	149·1	85·4	141·9	66·9	72·1	89·2	79·3	104·0	23·9	128·7	50·9
	25–30 ..	351	27·3	150·4	82·6	160·8	66·3	71·8	88·7	78·1	100·9	24·2	127·2	49·7
	31 and over	56	33·4	153·6	79·0	160·4	67·2	72·5	87·6	78·4	101·5	25·8	127·4	50·2
	All ages ..	633	26·5	150·3	83·3	154·0	66·6	72·0	88·8	78·6	102·0	24·2	127·8	50·2

* Not recorded prior to 1933.

† Comparable with " pulse rate, standing " of reports for 1932 and earlier years.

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TABLE XXVI.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 125 OFFICERS OF THE GENERAL DUTIES BRANCH, 1935.

Defect.	At home.	Abroad.	Total.
Vision	16	5	21
Ears or teeth	7	2	9
Medical	46	5	51
Surgical	36	2	38
Defective physical efficiency..	3	1	4
Defective physical efficiency and vision.	1	—	1
Defective physical efficiency and medical.	—	1	1
Total ..	109	16	125

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TABLE XXVII.—AIRMAN RECRUITS—CAUSES OF REJECTION, 1935.

Total number examined 20,431. Cause of rejection.	Number rejected. By civilian medical practitioners.	At recruiting depôts.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	1,064	1,705	113	2,882	141	379
Physique, poor	463	787	24	1,274	62	167
Feet, deformities of	372	231	6	609	30	80
Heart, diseases of, including D.A.H.	240	166	20	426	21	56
Ears, diseases of	75	243	5	323	16	42
Lungs, diseases of	33	60	4	97	5	13
Vision, defects of	212	475	13	700	34	92
Speech, defects of	21	36	2	59	3	8
Nervous system, diseases of	10	50	1	61	3	8
Cutaneous system, diseases of ..	26	61	4	91	4	12
Albuminuria	8	139	9	156	8	20
Eyes and eyelids, diseases of ..	15	28	—	43	2	6
Hernia and bubonocele	30	49	2	81	4	11
Joints, diseases of	10	26	1	37	2	5
Veins, diseases of (varix)	69	101	5	175	9	23
Varicocele	68	74	5	147	7	19
Chest and spine, malformations of ..	10	38	—	48	2	6
Urinary organs, diseases of	6	29	—	35	2	5
Bed-wetting, history of	4	20	—	24	1	3
Ulcers, wounds, cicatrices	5	29	—	34	2	4
Other causes	98	199	12	309	15	41
Total	2,839	4,546	226	7,611	373	1,000

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TABLE XXVIII.—SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1935

NATURE OF EXAMINATIONS.	UNITED KINGDOM.			ABROAD.				TOTAL.
	Institute of Pathology.	Cranwell.	Clinical Laboratories.	Aden.	Egypt.	'Iraq.	Palestine.	
ANALYSES, CHEMICAL OR BACTERIOLOGICAL :—								
Faeces	689	114	683	890	770	3,107	799	7,052
Gastric	30	23	28	2	—	12	35	130
Urine	748	2,627	8,171	547	1,273	783	1,945	16,094
Food	18	4	—	16	—	522*	98	658
Sewage	65	—	—	—	—	—	—	65
Water	271	4	—	41	47	3,531*	157	4,051
Works and Building material	—	—	—	—	—	156*	—	156
BLOOD TESTS :—								
Agglutination	67	6	5	8	2	37	17	142
Coagulation time	143	87	54	—	2	8	17	311
Counts	351	174	187	260	60	591	395	2,018
Cultures	46	7	11	11	7	46	16	144
Grouping	190	6	3	15	—	—	27	241
Malaria parasites	194	23	185	46	483	773	571	2,275
Sedimentation rate	185	20	67	—	—	4	19	295
Sugar tests	115	5	18	—	—	1	—	139
Urea tests	185	7	50	3	—	1	9	255
Van den Bergh	34	1	6	—	—	7	12	60
Wassermann and Meinicke	461	251	198	164	—	507	127	1,708
CEREBRO-SPINAL FLUID :—								
Bacteriological	29	4	8	—	1	4	1	47
Biochemical	29	—	6	—	—	5	1	41
Cytological	29	4	6	—	1	5	1	46
Complement deviation	31	—	6	—	—	1	1	39
PATHOLOGICAL SPECIMENS	76	1	6	—	—	3	4	90
POST MORTEMS	12	1	3	—	6	2	—	24
PUS, EXUDATES AND TRANSUDATES :—								
Bacteriological	60	16	457	11	12	105	23	684
Biochemical	3	—	6	—	—	1	—	10
Cytological	65	—	5	17	10	67	12	176
Bacillus Ducrey	1	5	3	25	53	10	3	100
Gonococcus	228	276	402	200	90	471	408	2,075
Spirochaeta	6	5	2	27	4	48	3	95
Leishmania	7	—	—	1	2	27	—	37
RENAL EFFICIENCY TESTS	188	12	46	3	—	1	8	258
SPUTA	146	135	411	77	75	303	265	1,412
SKIN SCRAPINGS AND HAIRS FOR FUNGI	48	1,595	—	—	—	3	1	1,647
THROAT AND NOSE SWABS	7,403	699	469	56	328	572	129	9,656
VACCINES, AUTOGENOUS	84	37	1	23	10	15	9	179
MISCELLANEOUS	1,639	10	426	99	68	108	12	2,362
ANIMAL EXPERIMENTS	108	—	—	1	—	4	—	113
TOTALS	13,984	6,159	11,929	2,543	3,304	11,841	5,125	54,885
	United Kingdom.			Abroad.				

* Includes 4,209 examinations carried out by Chief Chemist's Laboratories in Iraq: Waters, 1,860; mineral waters 1,504; ice 167; foods 522; oils, petrol, cement 156.

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TABLE XXIX.—DENTAL TREATMENT BY R.A.F. DENTAL OFFICERS, 1935.

	Fillings.	Scaling.	Extractions.	Root fillings.	Number of dentures supplied.	Number of Personnel fitted with dentures.	Repairs.	Remodels.	Number rendered dentally fit.
United Kingdom (Average strength 25,242)	28,923	5,940	9,554	83	497	359	147	162	7,827
Mediterranean Littoral (excluding Palestine, Transjordan and Sudan) (Average strength 3,793)	2,805	748	844	17	125	86	43	57	1,204
Iraq (Average strength 2,020) ..	2,154	524	487	2	87	71	57	38	799
Total (Average strength 31,055)	33,882	7,212	10,885	102	709	516	247	257	9,830
Privilege treatment rendered to members of P.M.R.A.F.N.S. and wives and families	2,102	319	2,501	9	48	33	3	8	—
Grand Total	35,984	7,531	13,386	111	757	549	250	265	9,830

DENTAL TREATMENT RENDERED TO R.A.F. PERSONNEL BY ARMY DENTAL OFFICERS.

India, Palestine, Transjordan and Sudan (Average strength 3,060)	2,442	249	474	9	40	28	11	27	981

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AIR PUBLICATION 875 (1936)

AIR MINISTRY

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1936

LONDON
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Air Publication 875 (1936)

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1936

The following Report on the Health of the Royal Air Force for the Year 1936 is issued for the information and guidance of all concerned.

By Command of the Air Council,

Donald Banks

AIR MINISTRY

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AIR MINISTRY,
KINGSWAY,
LONDON, W.C.2.

To the Secretary of the Air Council.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force for the year 1936.

The incidence of sickness shows an increase of 48 per 1,000 of strength admitted to hospitals and sick quarters, over that for 1935, which was the lowest figure previously recorded. This is largely accounted for by increases in the incidence of german measles, by 26·1 per 1,000 and influenza, by 8·5 per 1,000.

Among apprentices, the incidence of upper air passage infections, which showed a marked increase in 1935, has fallen from 514·2 per 1,000 in that year to 276·0 in 1936, and a decrease has taken place in the total incidence of all diseases. The incidence of injuries for apprentices has decreased from 57·3 per 1,000 in 1935 to 43·9 per 1,000 in 1936.

Invalidings from the Service have increased from 4·8 per 1,000 in 1935, which was the lowest figure yet recorded, to 5·5 per 1,000 in 1936. These figures compare with average incidences of 6·2 and 9·9 per 1,000 for the periods 1928–35 and 1921–27.

The incidence of deaths was 3·8 per 1,000, which compares with averages of 4·0 and 4·3 per 1,000 for the periods 1928–35 and 1921–27.

Of the officers of the general duties branch liable for flying duties as pilots, 97 per cent. were fit for full flying duties. This is the highest figure yet recorded.

Venereal disease again shows a reduction, from 9·5 per 1,000 in 1935 to 9·0 per 1,000 in 1936. This is the lowest incidence since the inception of these reports in 1921.

I have the honour to be, Sir,

Your Obedient Servant,

A. W. IREDELL,
Director of Medical Services,
Royal Air Force.

November, 1937.

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TABLE—I. SICKNESS AT HOME AND ABROAD—ANALYSED BY GEOGRAPHICAL AREAS.

Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.					No. sick daily.	
		Not more than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	Fresh cases of sickness. 48-hour cases included.	Fresh cases of sickness. 48-hour cases excluded.	Deaths.	Invalided out of service.	Invalided to United Kingdom.	48-hour cases included.	48-hour cases excluded.
United Kingdom (a).																		
1936..	35,823	10,454	14,748	25,202	104	228	—	9	15	6·5	6·1	704	412	2·9	6·4	—	17·8	16·7
1928–35. Average ..	*22,915*	*4,490*	*8,457*	*12,947*	*80*	*165*	—	*12*	*18*	*7·0*	*6·7*	*565*	*369*	*3·5*	*7·2*	—	*19·2*	*18·4*
1921–27. Average ..	*22,161*	*8,875*	*8,267*	*17,142*	*72*	*255(c)*	—	*10*	*18*	*7·4*	*6·8*	*774*	*373*	*3·2*	*11·5(c)*	—	*20·3*	*18·6*
Fleet Air Arm.																		
1936..	1,160	216	371	587	8	3	14	12	18	6·0	5·7	506	320	6·9	2·6	26·3	16·4	15·6
1928–35. Average ..	*895*	*241*	*342*	*583*	*6*	*3*	*9*	*10*	*17*	*6·8*	*6·4*	*651*	*382*	*6·7*	*3·4*	*23·0*	*18·6*	*17·5*
Mediterranean Littoral.																		
1936 (b)	6,683	2,686	3,422	6,108	47	20	121	10	16	9·0	8·4	914	512	7·0	3·0	18·1	24·6	23·0
1928–35. Average (b) ..	*3,962*	*1,799*	*1,948*	*3,747*	*15*	*13*	*46*	*9*	*16*	*8·4*	*7·7*	*946*	*492*	*3·8*	*3·3*	*11·6*	*23·0*	*21·1*
1921–27. Average (a) ..	*3,590*	*2,227*	*2,084*	*4,311*	*20*	*20*	*64*	*10*	*19*	*11·9*	*11·0*	*1,201*	*581*	*5·6*	*5·6*	*17·8*	*32·6*	*30·1*
Iraq.																		
1936..	1,954	566	1,175	1,741	6	5	29	13	18	11·5	11·1	891	601	3·1	2·6	14·8	31·4	30·3
1928–35. Average ..	*2,141*	*700*	*1,403*	*2,103*	*11*	*10*	*56*	*14*	*20*	*13·7*	*13·2*	*982*	*655*	*5·1*	*4·7*	*26·2*	*37·5*	*36·2*
1921–27. Average ..	*2,960*	*2,697*	*2,708*	*5,405*	*24*	*17*	*82*	*10*	*18*	*18·0*	*16·8*	*1,826*	*915*	*8·1*	*5·7*	*27·7*	*49·3*	*46·0*
India.																		
1936..	2,028	571	938	1,509	9	5	43	13	20	9·5	9·1	744	463	4·4	2·5	21·2	26·0	24·9
1928–35. Average ..	*2,071*	*817*	*1,198*	*2,015*	*16*	*6*	*23*	*10*	*16*	*9·4*	*8·9*	*973*	*578*	*7·7*	*2·9*	*11·1*	*25·8*	*24·4*
1921–27. Average ..	*1,887*	*2,150*	*1,390*	*3,540*	*17*	*11*	*48*	*7*	*16*	*13·3*	*11·7*	*1,876*	*737*	*9·0*	*5·8*	*25·4*	*36·4*	*32·1*
Far East (b).																		
1936..	813	261	492	753	11	4	16	15	22	13·7	13·2	926	605	13·5	4·9	19·7	37·4	36·1
Abroad: All areas (a).																		
1936..	12,011	4,182	6,300	10,482	77	36	223	11	18	9·9	9·3	873	525	6·4	3·0	18·6	27·0	25·4
1928–35. Average (d) ..	*8,903*	*3,609*	*4,932*	*8,541*	*46*	*33*	*139*	*11*	*17*	*10·2*	*9·5*	*959*	*554*	*5·2*	*3·7*	*15·6*	*27·9*	*25·0*
1921–27. Average (d) ..	*8,521*	*7,129*	*6,218*	*13,347*	*61*	*49*	*194*	*9*	*18*	*14·3*	*13·1*	*1,566*	*730*	*7·2*	*5·8*	*22·8*	*39·2*	*35·9*
All areas.																		
1936..	47,834	14,636	21,048	35,684	181	264	223	10	16	7·4	6·9	746	440	3·8	5·5	18·6	20·2	18·9
1928–35. Average ..	*31,818*	*8,099*	*13,389*	*21,488*	*126*	*198*	*139*	*12*	*18*	*7·9*	*7·5*	*675*	*421*	*4·0*	*6·2*	*15·6*	*21·6*	*20·5*
1921–27. Average ..	*30,682*	*16,004*	*14,486*	*30,489*	*133*	*304(c)*	*194*	*9*	*18*	*9·3*	*8·6*	*994*	*472*	*4·3*	*9·9(c)*	*22·8*	*25·5*	*23·6*

(a) Includes Fleet Air Arm in this area. (b) Excludes Fleet Air Arm in this area. (c) Excludes 711 invalids through Discharge Centre Medical Board during 1921.
(d) Includes Far East, not shown separately prior to 1936.

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME AND ABROAD DURING 1936

The method of recording statistics by commands in this report is similar to that adopted for all previous reports and is as follows :—

(i) All deaths, and all invalids discharged from the Service are shown under the command on whose strength the personnel concerned were borne when first admitted to sick quarters or hospital, irrespective of the command in which the death or invaliding took place.

(ii) All sickness in respect of cases invalided to home establishment is shown under the command in which the illness first developed.

General

1. The total sickness in the Royal Air Force at home and abroad is analysed in table I, page viii, by geographical areas. There has been no change in the areas since last year's report. The term "Mediterranean Littoral," though no longer accurately describing the geographical area, has been retained in conformity with previous reports. The localities included in this area, and the average personnel strength were :—Malta, 763 ; Egypt (including Kenya), 3,218 ; Sudan, 675 ; Transjordan and Palestine, 716 ; Aden, 791 ; drafts en route to and from the United Kingdom, 446 ; and Special Duties 74. Table I compares the figures for 1936 with the corresponding average figures for the two periods 1928–35 and 1921–27. Throughout the report these two periods are referred to as the two preceding periods respectively. Separate figures are shown for the Fleet Air Arm which varies in locality throughout the year.

2. The average strength of the total force during 1936 was 47,834 and the total number of cases of sickness, i.e. inclusive of admissions to hospitals and sick quarters and cases of not more than 48 hours duration, was 35,684, giving a case incidence of 746 per 1,000 of strength compared with an incidence of 681 per 1,000 in 1935 and average incidences of 675 and 994 for the two preceding periods.

3. In the total force the number of admissions to hospitals or sick quarters was 21,048, an incidence of 440 per 1,000 of strength compared with 392 per 1,000 in 1935, 398 per 1,000 in 1934, and average incidences of 421 and 472 respectively for the two preceding periods.

4. The total sickness incidence at home has increased from 581 in 1935 to 704 per 1,000 of strength in 1936, the average for the two preceding periods being 565 and 774 per 1,000. Abroad, the total sickness incidence figure decreased from 936 in 1935 to 873 per

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1,000 in 1936 compared with average incidences of 959 and 1,566 for the two preceding periods. At home the number of admissions to hospitals and sick quarters was 14,751, an incidence of 412 per 1,000 compared with 343 per 1,000 in 1935, and 369 and 373 per 1,000 for the two preceding periods. Abroad, there were 6,300 admissions to hospitals and sick quarters, an incidence of 525 per 1,000, compared with 516 per 1,000 in 1935, and 554 and 730 per 1,000 for the two preceding periods.

5. (i) In the whole force, including cases of not more than 48 hours duration, the number of sick daily at 20·2 is 0·8 higher than the corresponding figure for 1935, the average incidences for the two preceding periods being 21·6 and 25·5 per 1,000. The figures for home and abroad are :—At home, 17·8 per 1,000 were constantly sick in 1936, compared with 16·2 per 1,000 in 1935, and 19·2 and 20·3 per 1,000 for the two preceding periods. Abroad, the figures were 27·0, 28·2, 27·9 and 39·2 for 1936, 1935 and the two preceding periods respectively.

(ii) Excluding cases of not more than 48 hours duration in the total force, the number of sick daily increased from 18·4 per 1,000 in 1935 to 18·9 in 1936 compared with average incidences of 20·5 and 23·6 per 1,000 for the two preceding periods. At home the number of sick daily in hospitals and sick quarters showed an increase of 1·4 per 1,000 in 1936 compared with 1935, though still lower than the figures 18·4 and 18·6 per 1,000 for the two preceding periods. Abroad, the corresponding figure—25·4 per 1,000—showed a decrease of 1·2 per 1,000, and compares favourably with averages of 26·0 and 35·9 for the two preceding periods.

6. In the total force the average duration of each case was 10 days in both 1936 and 1935 ; the averages for the two preceding periods being 12 and 9 days, while the average number of days sickness per head, 7·4, shows an increase of 0·3 over 1935, and compares with averages of 7·9 and 9·3 days for the two preceding periods.

7. (i) Causes of sickness excluding cases of not more than 48 hours duration, in the force as a whole, are analysed in table II, page 21, by certain diseases, groups of diseases, and injuries, to show the number of cases, deaths and invalids under each heading, and to show further the percentage of each cause to the total, comparing 1936 with the two preceding periods.

(ii) In 1936, disease constituted 87·0 per cent. and injuries 13·0 per cent. of the total sickness, compared with 82·2 and 17·8 per cent. in 1935, and averages of 81·8 and 18·2 per cent. and 85·3 and 14·7 per cent. for the two preceding periods. These figures have remained in fairly constant proportion. As in previous years the group " other diseases due to infection " shows the highest percentage of total sickness. Excluding injuries, the group " diseases

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of the digestive system " was the second highest cause of sickness in 1936 as in the two preceding periods. There was an increase of 1·6 per cent. in the number of cases due to influenza ; 0·2 per cent. in diseases of the respiratory system (excluding tuberculosis and pneumonia), and 0·2 per cent. in diseases of the areolar tissue and skin. Pneumonia at 0·4 per cent. is unchanged from 1935.

The case incidence of malaria shows an increase from 286 in 1935 to 344 in 1936, phlebotomus fever a decrease from 255 to 252, and dysentery an increase from 68 to 85.

Venereal disease fell from 2·4 per cent. in 1935 to 2·1 per cent. in 1936.

8. The figures in table II, page 21, regarding deaths and invalids are commented upon under these headings in this chapter.

9. (i) Table III, page 22, analyses, for 1936 and the two preceding periods, the incidence of sickness and the average duration of each case in days by groups of diseases and injuries. This table further divides these incidences as they occur in the total force and the force at home and abroad.

The incidence of sickness due to disease was 381·3 per 1,000 in 1936 compared with 321·7 in 1935, and average incidences of 344·3 and 402·6 for the two preceding periods. Apart from the figures for " diseases caused by infection," in which there was an increase both at home and abroad, the detailed incidences for 1936 showed little variation from 1935.

The incidence of injuries fell in 1936 to 58·7 per 1,000 as compared with 69·8 in 1935 and average incidences of 76·6 and 69·5 for the two preceding periods.

(ii) During 1936, the average duration for cases of disease was 15 days as compared with 17 in 1935, and 17 and 18 days for the two preceding periods. The injury group, with an average duration of 18 days, compares with 19 days in 1935, and 20 for each of the two preceding periods.

Fleet Air Arm—(Royal Air Force Personnel)

10. The incidence rates of sickness, deaths, and invalidings of the Fleet Air Arm are liable to fluctuate considerably as the average strength, 1,160, is small. The incidence of all cases of sickness was 506 per 1,000 of strength compared with 544 for 1935 and 651 for the period 1928–35. Excluding cases of not more than 48 hours duration, the sickness incidence decreased from 400 per 1,000 in 1935 to 320, and compares with an average incidence of 382 per

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1,000 for the period 1928–35. There was an increase in the incidence of deaths from 4·9 per 1,000 in 1935 to 6·9 in 1936, the death rate for the period 1928–35 being 6·7. The final invaliding rate was 2·6 per 1,000 in 1936 as compared with 1·0 in 1935 and 3·4 for the period 1928–35. These incidences compare favourably with the final invaliding rate for the total force of 5·5 per 1,000 for 1936. The incidence of invaliding from abroad in 1936 fell to 26·3 per 1,000 as compared with 30·1 in 1935, being slightly higher than the average incidence of 23·0 for the period 1928–35. The invaliding rate from abroad for the total force was 18·6 per 1,000 in 1936 and 19·9 in 1935.

Including 48-hour cases, the number of sick daily was 16·4 per 1,000 in 1936, a decrease of 2·0 per 1,000 from 1935, the average for the period 1928–35 being 18·6; the average duration of each case in days remained at 12, as in 1935, the figure for the period 1928–35 being 10. The average number of days sickness per head was 6·0 per 1,000 in 1936, compared with 6·7 in 1935 and 6·8 for the period 1928–35. If cases of not more than 48 hours duration are excluded the constantly sick incidence was 15·6 per 1,000 in 1936 compared with 17·8 in 1935 and 17·5 for the period 1928–35. The average duration of each case in days was 18 in 1936, 16 in 1935 and 17 for the period 1928–35; and the average number of days sickness per head was 5·7 in 1936, 6·5 in 1935 and 6·4 for the period 1928–35.

Invalidings

11. *General.*—Table I, page viii, gives the final invalidings, and invalidings to the United Kingdom for the year 1936 and the averages for the periods 1928–35 and 1921–27. Table II, page 21, shows the final invalidings by disease and injury groups, the number of cases, the percentage of the total attributable to each group during 1936, and the percentages for the two preceding periods. Table XII, page 32, analyses for 1936, only, the incidence of final invalids by disease and injury, and further shows the incidence of invaliding to the United Kingdom from abroad. The invaliding incidences for the Fleet Air Arm are analysed in para. 10.

12. *Invalids from commands abroad to the United Kingdom.*—(i) Invalidings to the United Kingdom in 1936 totalled 223—43 officers and 180 airmen. This is a decrease in the invaliding rate—18·6 per 1,000—as compared with 19·9 in 1935, the figures for the two preceding periods being 15·6 and 22·8.

(ii) Figures for the groups of diseases normally accounting for the majority of invalidings to the United Kingdom are shown below. The comparative invalidings for these groups during 1935 and 1934 are also shown.

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	1936.		1935.		1934.	
Injuries	27		44		9	
Diseases of the nervous system and brain—						
Epilepsy	5		3		3	
Psychoneurosis	28		20		7	
Mental diseases	11	54	5	39	3	19
Others	10		11		6	
Diseases of the digestive system ..	17		14		13	
Diseases of the respiratory system (excluding tuberculosis and pneumonia)	11		11		6	
Diseases of the circulatory system ..	8		10		8	
Tuberculosis—						
Pulmonary	11		5		13	
Other forms	2	13	2	7	3	16
Diseases of the organs of locomotion ..	10		7		10	
Diseases of the ear and nose—						
Chronic suppurative otitis media	4		2		4	
Others	6	10	4	6	3	7

During 1936 these disease groups accounted for 150 invalidings to the United Kingdom out of a total of 223.

The average strength abroad was approximately one-fourth greater than in 1935.

(iii) Of the 43 officers invalided to the United Kingdom, 39 were invalided on account of disease and 4 on account of recent injuries, one of which occurred in a flying accident. Of the 180 invalidings of airmen 147 were on account of disease and 10 as a result of old injury; the remaining 23 were due to recent injuries, one of which was caused by a flying accident.

(iv) The 223 invalidings to the United Kingdom were from the following areas :—

	Officers.	*Airmen.*	*Total.*
Aden	3	15	18
Egypt	13	59	72
En route	—	1	1
Far East	5	11	16
Fleet Air Arm	6	8	14
India	6	37	43
Iraq	3	26	29
Malta	2	6	8
Palestine	5	17	22
Total	43	180	223

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(v) Of the 43 officers invalided to the United Kingdom, 35 were returned to duty during the year, and the remaining 8 were still under treatment at the end of 1936. Of the 180 airmen, 116 were returned to duty, 1 died, 29 were finally invalided, 34 remained under treatment.

13. *Final invalids.*—(i) Two hundred and sixty-four cases, consisting of 11 officers and 253 airmen, were invalided from the service in 1936, representing an incidence of 5·5 per 1,000 compared with 170 (4·8 per 1,000) in 1935, and average incidences of 6·2 and 9·9 for the two preceding periods. In 1936, disease as distinct from injury was responsible for 94 per cent. of final invalids, as compared with 92·9 per cent. in 1935, 96·1 in 1934, 92·0 in 1933, 93·6 in 1932, and average figures of 92·4 and 94·5 for the two preceding periods. It will thus be seen that the invaliding rates for disease and injury maintain a fairly constant proportion. As in previous years the highest percentages of final invalidings are due to diseases of the nervous system and brain 32·2, and tuberculosis 14·4 per cent., respectively. For the year 1935 and the two preceding periods the figures were 27·1, 28·8 and 24·7 per cent. for diseases of the nervous system and brain, and for tuberculosis, 15·3, 15·0 and 13·5 per cent. Injuries were responsible for 6 per cent. of final invalidings in 1936, 7·1 in 1935 and 7·6 and 5·5 for the two preceding periods.

(ii) The chief causes of final invalidings for 1936 are analysed below, with comparable figures for 1935 and 1934 :—

	1936.		1935.		1934.	
Diseases of nervous system and brain—						
Mental diseases	44		15		15	
Epilepsy	15	85	12	46	12	55
Psychoneurosis	14		12		21	
Others	12		7		7	
Tuberculosis—						
Pulmonary	31	38	24	26	27	30
Other forms	7		2		3	
Diseases of ear and nose—						
Chronic suppurative otitis media	20	26	10	14	7	8
Others	6		4		1	
Diseases of respiratory system (excluding pneumonia and pulmonary tuberculosis)	20		8		6	
Diseases of urinary organs	17		11		6	
Injuries—						
Fractures	5	16	9	12	1	6
Wounds	3		—		1	
Others	8		3		4	

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	1936.		1935.		1934.	
Acute rheumatism	14		11		2	
Diseases of heart—						
Disordered action	3		4		2	
Valvular	5	10	2	6	3	11
Endocardial	2		—		6	
Myocardial	—		—		—	
Diseases of organs of locomotion—						
Diseases of the bone	1		4		2	
Diseases of the joints	3		4		2	
Diseases of muscles, tendons, bursae	1	9	—	10	—	7
Deformities of limbs	4		2		3	
Diseases of eye	4		5		9	
Diseases of digestive system	3		7		4	

As in previous years, pulmonary tuberculosis was the commonest individual cause of invaliding from the service. The figure for 1936 at 31 shows an increase over those for both 1935 and 1934. In the other groups of disease there has been an increase in all except diseases of the digestive system, organs of locomotion, and eye, which show slight decreases. The total strength, however, increased by approximately one-third.

(iii) Of the 11 officers who were finally invalided, 6 were invalided for disease and 5 for recent injuries, of which 3 were sustained in flying accidents, 1 in a game of football and 1 in a motor accident on leave. The causes of final invaliding among the 253 airmen were: result of old injury, 4; disease, 238; and recent injury, 11. Of these cases of recent injury, 3 were sustained in motor cycle accidents off duty, and 2 in flying accidents.

Deaths

14. Table I, page viii, analyses all deaths, by numbers and incidences per 1,000 of strength, in geographical areas, for the year 1936 and the two preceding periods. Table II, page 21, analyses for the same year and periods all deaths by groups of disease and injury, showing for each group the percentage of the total deaths. Table XII, page 32, further analyses by numbers for 1936 only, all deaths by disease and injury causes, showing those occurring in the force at home and abroad, and those for the total force. The figures in respect of deaths in the Fleet Air Arm have been commented on in para. 10.

15. (i) There were 181 deaths during 1936, an incidence of 3·8 per 1,000, compared with 167 deaths and an incidence of 4·8 per 1,000 in 1935, and average incidences of 4·0 and 4·3 for the two preceding periods.

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(ii) Of the total of 181 deaths, 118 (65 per cent.) occurred as the result of injury, compared with 128 (77 per cent.) in 1935, and 63 (35 per cent.) from disease compared with 39 (23 per cent.) in 1935.

(iii) The causes of the 63 deaths from disease were as follows :—

Pneumonia	10
Septicaemia	9
Cerebro-spinal meningitis	4
Carcinoma	3
Meningitis	3
Pulmonary tuberculosis	3
Appendicitis	2
Cerebral abscess	2
Enteric group	2
Nephritis	2
Pleurisy	2
Ulcerative colitis	2
Acute ascending paralysis	1
Acute fatty degeneration of liver	1
Acute peritonitis	1
Carbon monoxide poisoning	1
Cerebral thrombosis	1
Cirrhosis of liver	1
Duodenal ulcer	1
Gastric haemorrhage	1
Gastric ulcer	1
Haemophilia	1
Malaria	1
Myocardial degeneration	1
Oedema of larynx	1
Perinephritis	1
Pulmonary embolism	1
Pyonephrosis	1
Sarcoma	1
Syncope	1
Syphilis	1

Pneumonia, as in previous years, was one of the chief causes of death from disease, as distinct from death from injury.

16. (i) The 181 deaths were distributed as follows :—

	Home.	*Abroad.*	*Total.*
Officers	27	25	52
Flight cadets	—	—	—
Apprentices and boys	8	—	8
Other airmen	69	52	121
Total	104	77	181

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(ii) At home, 104 deaths occurred, an incidence of 2·9 per 1,000, compared with 74 deaths and an incidence of 2·9 in 1935, and average incidences of 3·5 and 3·2 for the two preceding periods.

(iii) Abroad, 77 deaths occurred, an incidence of 6·4 per 1,000, compared with 93 deaths and an incidence of 9·4 per 1,000 in 1935, and average incidences of 5·2 and 7·2 for the two preceding periods. Considering the death incidence by geographical areas abroad, there are increases in the figures for the Fleet Air Arm, and the Mediterranean Littoral, and a fall for Iraq. The figure for India of 4·4 per 1,000 shows a marked drop from 1935, in which period the Quetta earthquake occurred.

17. (i) Of the 52 officers who died, death was caused by disease in 8, and by injury in 44 cases.

(ii) In the case of the 8 officers who died from disease, 5 died abroad.

(iii) Of the 44 officers who died as a result of injury, 24 died at home and 20 abroad. Twenty-three deaths at home and 18 abroad were due to flying accidents on duty. The causes of the remaining 3 deaths were: 1 due to wounds received in air action, 1 due to drowning and 1 as the result of a civil aeroplane accident. Of these three deaths, the first two occurred abroad and the third at home.

18. There were no fatal accidents among flight cadets.

19. Four apprentices and 4 boys died as the result of disease. There were no deaths from injury.

20. (i) Of the 121 deaths which occurred among airmen, other than apprentices or boys, 47 were the result of disease, and 74 the result of injury. Injury was thus responsible for 61 per cent. of the deaths among airmen other than apprentices or boys. Of the 47 deaths from disease, 30 occurred at home and 17 abroad, while 39 of the 74 deaths from injury occurred at home and the remaining 35 abroad.

(ii) Of the 74 deaths from injury among airmen, 47 were due to flying accidents on duty (26 at home and 21 abroad). Of the remaining 27 deaths due to injury, 13 occurred at home and 14 abroad. Of the 13 deaths at home, 8 occurred off duty, 3 were due to motor car accidents, 2 to motor cycle accidents, 1 to drowning while bathing, 1 to suicide, and 1 airman was found decapitated on a railway line. Of the remaining 5 deaths, which occurred on duty, 3 were due to airmen being knocked down by aeroplanes, 1 to an airscrew accident, and 1 to an airman being knocked down by a motor car. Of the 14 deaths abroad, other than those caused through flying accidents, 12 occurred off duty. Five were due to drowning, 1 each to motor car and motor cycle accidents, 1 to suicide, 1 to athletics, 1 to accidental shooting, 1 to gunshot wounds inflicted by unknown assailants in Palestine, 1 to a blow from the tailboard of a lorry. Of those occurring on duty 1 was due to wounds received in air action, and 1 to burns caused by a fire in a service vehicle.

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Pulmonary Tuberculosis

21. (i) Table IV, page 23, analyses all fresh cases of pulmonary tuberculosis which arose during 1936, by age, trade group, length of service, and groups of units.

(ii) Thirty-eight fresh cases of pulmonary tuberculosis, 3 officers and 35 airmen, were recorded in 1936, giving an incidence of 0·8 per 1,000. For the years 1935, 1934 and 1933 the figures were 24 (0·7 per 1,000), 29 (0·9 per 1,000) and 35 (1·1 per 1,000).

(iii) Of these 38 cases, 25 occurred at home, and 13 abroad, the incidences per 1,000 being 0·7 at home and 1·1 abroad.

22. Of the fresh cases, 2 died; 27 were invalided from the service; 1 returned to duty; 1, a Naval officer, was restored to Naval establishment, and 7 remained under treatment at the end of 1936. In addition to the fresh cases, there were 5 cases remaining under treatment from 1935. Of these, 1 died and 4 were invalided from the service during 1936, making a total of 31 final invalids from this disease during the year. Of those invalided, 23 were serving at home, and 8 abroad when the disease was first diagnosed.

23. (i) In 5 of the 38 fresh cases there was a definite family history of pulmonary tuberculosis. Of the 25 cases which occurred at home, 12 had served abroad in tropical or semi-tropical countries, and 2 of these showed a previous history of tropical disease. Of the 13 cases occurring abroad, 2 had a history of tropical disease.

(ii) Of the fresh cases, the tubercle bacillus was found in the sputum of 31, the remaining 7 being diagnosed by positive X-Ray and clinical findings.

Venereal Disease

24. (i) An analysis of the incidence of the various forms of venereal disease at home and abroad, and for the whole force during 1936 is given in Table VI, page 25. This table also shows the incidences for total venereal disease for each year from 1921.

(ii) The incidence of all venereal disease in 1936 was 9·0 per 1,000, being 0·5 per 1,000 lower than in 1935, which at 9·5 per 1,000 was the lowest incidence then recorded in the Royal Air Force. There was a decrease in the incidence of fresh cases of syphilis and gonorrhoea, the figure for acute gonorrhoea being 6·1 per 1,000 in 1936, and 7·0 in 1935, and for syphilis 0·5 per 1,000 in 1936, and 1·0 per 1,000 in 1935. Soft chancre increased from 0·7 per 1,000 in 1935 to 1·9 in 1936. As in previous years the incidences of venereal disease were markedly higher abroad than at home. In 1936, the average number of sick daily for all venereal diseases was 32·5 per 1,000 at home, and 42·0 abroad, while the average duration of each case in days for the whole force in 1936 was 63, a reduction of 2 days on the figure for 1935.

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(iii) The table below compares the number of days sickness per head due to venereal disease in certain geographical areas over a period of five years.

	Average No. of days' sickness per head.				
	1936	1935	1934	1933	1932
Home	0·3	0·4	0·4	0·5	0·5
India	0·4	0·3	0·4	0·6	0·4
Mediterranean Littoral ..	1·2	1·1	0·9	1·2	1·2
Iraq	0·9	1·4	1·8	1·1	1·3
Total Force	0·6	0·6	0·6	0·7	0·7

Age Groups

25. Table V, page 24, gives an analysis of sickness incidence sub-divided into disease and injury in the total force, and in the force at home and abroad, by age groups in the case of airmen, and by officers and cadets. The youngest group—apprentices and boys—serves at home only and very few of the group aged 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of the numbers if divided into age groups.

26. (i) The incidence of all disabilities for all units shows that the airman group is larger at 444 per 1,000 than the officer and cadet group at 393 per 1,000, as compared with 394 and 374 for 1935. The incidence of disease is higher in the airman group—388 per 1,000 as opposed to 316 in the officer and cadet group, while the incidence of injury is higher—77 per 1,000 in the officer and cadet group, as opposed to 57 in the airman group.

(ii) In analysing the incidence of all disabilities among the age groups of airmen for the total force it is observed that the highest incidence is found among the youngest age groups, and the four lowest incidences are in the four oldest age groups. The figures for units at home show that the lowest incidence is in the groups 30–34 and 35–39, while the incidence of all disabilities abroad is lowest in the two oldest age groups. For disease, the lowest incidence at home is in the 30–34 and 35–39 age groups, and abroad in the groups 35–39 and 40 and over, while injury, both at home and abroad, shows the lowest incidence in the two oldest age groups.

(iii) In comparison with 1935, it is noted that the disease incidence for airmen under 18, which had steadily increased from 1933, has fallen from 965 per 1,000 in 1935 to 794 per 1,000. In the age groups 18–19, 20–21, 22–23, 24–25, 26–27 at home, there are increases, the remaining groups showing little variation from the previous year's figures. Abroad, the age groups 20–21, 22–23, 26–27, 28–29, 30–34 show slightly increased incidences, the groups 24–25 and

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35–39, decreasing. The incidence of disease in all age groups of airmen, and in the officer and cadet groups, is lower at home than abroad. The injury incidence for all airmen is greatest in the 22–23, 24–25 age groups, and, in comparison with 1935, there has been a decrease in all age groups except 40 and over which shows a small increase. In all age groups of airmen, the injury incidence is lower at home than abroad. The case incidence of injuries for officers is the same at home as abroad.

Sickness in Various Groups of Units

27. Table VIII, page 28, analyses the incidence of sickness sub-divided into disease and injury in the total force, and in the force at home and abroad by different groups of units.

28. (i) As in previous years the total sickness incidence is lowest in " flying " units, the disease incidence being markedly so—291·2 per 1,000, compared with 440·1 per 1,000 for " depôts ", and 463·8 per 1,000 for " miscellaneous " units—while the injury incidence is highest in " flying " units. The incidence of deaths is highest in " flying " units at 5·7 per 1,000, and is chiefly due to injuries with an incidence of 4·8 per 1,000 compared with 0·9 per 1,000 for disease. The figures for 1935 were 5·8 per 1,000 for injuries and 0·7 per 1,000 for disease, in which year the Quetta earthquake occurred. The incidence of invalidings from the service is highest in " miscellaneous " units at 8·0 per 1,000, compared with 5·5 per 1,000 for all units. The average duration of each case in days shows little variation in the different groups of units.

(ii) Comparing the incidences in the groups of units at home, the total sickness incidence is lowest in " flying " units—286·8 per 1,000—while " miscellaneous " units and " depôts " give incidences of 503·7 and 503·3 per 1,000, respectively. The disease incidence for " flying " units is 225·6, for " depôts " 462·2, and for " miscellaneous " units 450·9 per 1,000. " Flying " units show the highest injury incidence at 61·2, followed by " miscellaneous " units at 52·8, and " depôts " at 41·1 per 1,000. These figures compare favourably with 64·4, 61·6 and 59·8 per 1,000, recorded in 1935. The death incidence at home is 4·7 per 1,000 in " flying " units, as opposed to 1·8 for " miscellaneous " units and 1·4 for " depôts." This figure of 4·7 in " flying " units is mainly due to deaths from injuries at 4·0 per 1,000, as against a rate of 0·2 at " depôts," and nil at " miscellaneous " units. In 1935 the rates were 2·9 per 1,000, for " flying " units, 2·0 at " miscellaneous " units, and 0·9 at " depôts."

(iii) Abroad, the total sickness incidence is lowest at "depôts" with 432·1 per 1,000, and highest at " miscellaneous " units with 587·4 per 1,000. " Flying" and "miscellaneous" units respectively record highest injury incidences with 83·6 and 82·9 per 1,000 ; " flying "

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units the highest death incidence with 8·5 per 1,000—mostly due to injuries—and " miscellaneous " units the highest invaliding rate with 3·9 per 1,000. The average duration of each case in days for each group of units shows little variation.

(iv) The disease incidence abroad in " flying " units is rather more than double that at home, while the injury incidence abroad is about one-third more. In " depôts," the total sickness incidence is 71·2 per 1,000 greater at home than abroad, disease and injury incidences being, at home, 462·2 and 41·1 per 1,000 respectively, and abroad, 368·8 and 63·3 per 1,000. In " miscellaneous " units, the total sickness incidence is 587·4 per 1,000 abroad, and 503·7 per 1,000 at home, disease and injury incidences at home being 450·9 and 52·8 per 1,000, and abroad, 504·5 and 82·9 per 1,000.

Trade groups

29. Table IX, page 29, analyses by trade groups the incidences of sickness, divided into injury and disease, with the latter subdivided into groups of disease which are the chief cause of medical non-effectiveness.

30. (i) For 1936 the " apprentices and boys " group shows the highest incidence for all disabilities with 720·1 per 1,000, followed by " aircraft hands," " drivers and open air workers," and " workshop workers " groups with 597·3, 411·4 and 400·2 per 1,000. In 1935, the highest disability incidences were recorded in the " apprentices and boys," " drivers and open air workers " and " metal workers " groups. As compared with 1935, the total disability rate for " apprentices and boys " decreased by 134·7 per 1,000, the fall being due mainly to a decrease in the incidence of upper air passage infections, and all injuries. The lowest all disabilities incidence is found in the " fitters " group at 320·4 per 1,000.

(ii) Injuries show a reduction in all groups except " clerks and office workers " where the incidence is practically the same as 1935. The rate for " apprentices and boys " shows a further fall to 43·9 per 1,000, as compared with 57·3 and 115·2 per 1,000 in 1935 and 1934. The highest incidences for all injuries are found in the " officer and cadet " group—75·7 per 1,000, followed by " drivers and open-air workers," " aircrafthands " and " workshop workers," which show 65·9, 65·1 and 64·2 per 1,000. The lowest incidences occur in the " apprentices and boys " group—43·9 per 1,000, and the " other skilled workers " group with 43·3 per 1,000.

(iii) "Apprentices and boys " group shows the highest all disease incidence, but the figure 676·2 per 1,000 is smaller than that for 1935 by 121·3 per 1,000. The lowest incidence, as in 1935, is found in the " fitter " group—267·1 per 1,000. In the disease groups, the incidence of influenza for the total force has risen from 12·4 in 1935 to 20·9 per 1,000, the highest incidence being noted in the

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" officers, cadets and airman pilots " group—33·7 per 1,000, as compared with 24·0 in 1935, the lowest incidences being in the " fitters " group, 10·6 per 1,000, and in the " metal workers " group 6·8 per 1,000. The incidence among " apprentices and boys " rose from 8·4 per 1,000 in 1935 to 22·6 in 1936, and among " aircraft-hands " from 10·3 per 1,000 to 32·6. Upper air passage infections, as in previous years, are most common among " apprentices and boys," the figure 276·0 per 1,000 for 1936 being a reduction of 238·2 per 1,000 on 1935. On the other hand, the incidence of these diseases, in the " aircrafthands " group, has risen from 84·8 in 1935 to 181·2 per 1,000. As in former years the low venereal disease incidence in the " officers, cadet and airman pilots " group is noticeable ; the highest incidence is shown in the " wireless operators, riggers and armourers " group, followed by the " metal workers " group. For respiratory diseases the " metal workers " and " aircraft-hands " groups show the highest incidences with 20·4 and 16·8 per 1,000. The " apprentices and boys " group, which in the previous year had the highest incidence of these diseases, has dropped to fourth place with 12·1 per 1,000, and the lowest incidence is found in the " fitters " and " other skilled workers " groups—10·1 per 1,000 for each. With regard to digestive diseases, the " other skilled workers," " drivers and open-air workers," and " workshop workers " groups, show the highest incidences with 40·0, 39·0 and 37·1 per 1,000, while the lowest incidences were in the " fitters," " apprentices and boys," and " metal workers " groups with 25·2, 27·0 and 27·1 per 1,000.

Injuries

31. Table X, page 30, analyses injuries, showing the cause and nature, and whether sustained on or off duty, or in games organised by the service. Deaths from injury are also shown. For the purposes of this analysis, medical non-effectiveness, due to the following conditions, is not considered to be due to injury :—Effects of heat, 20 cases ; effects of cold, electricity or sunburn, 13 cases ; and ill-fitting boots, 4 cases.

32. (i) The number of cases of injury of all types occurring during 1936 was 2,773, representing an incidence of 59 per 1,000, compared with 69 per 1,000 in 1935, and 77 per 1,000 in 1934. Of this total, in 583 cases the injury was sustained on duty, and in 1,038 cases, during games or athletics organised by the service. Thus, in 1936, 58 per cent. of all injuries fall under these two headings, compared with 60 per cent. in 1935, and 58 per cent. in both 1934 and 1933.

(ii) There were 118 deaths resulting from injury, compared with 127 in 1935. The figure for 1935, however, includes 52 deaths attributable to the Quetta earthquake.

(iii) Sixteen individuals were invalided from the service during 1936, as a result of injury. The injury was received while flying on duty in 5 cases, in motor accidents off duty in 4 cases, and in a

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motor accident on duty in 1 case. Of the remaining injuries, 1 was a gun-shot wound sustained off duty, 1 a case of burns sustained on duty while trying to rescue the pilot from an aeroplane which had crashed and caught fire; 2 were injuries to the eye, of which 1 occurred on duty and 1 on leave, and 2 were injuries due to organised games.

(iv) As in past years, the lower extremity is the site of the majority of injuries, 51 per cent. of all injuries occurring in this area in 1936 as in 1935.

33. *Injuries sustained in flying accidents.*—(i) Table XI, page 31, analyses flying casualties on duty for the years 1932 to 1936, showing the number killed and injured under the headings officers, cadets and airmen, and the average duration of each case in days.

(ii) As a result of accidents while flying on duty, there were 189 casualties in 1936 compared with 98 in 1935, a percentage of 6·8 of all injuries compared with 4·0, 3·2 and 4·5 in the years 1935, 1934 and 1933. There was 1 flying casualty off duty. Except for 1 medical officer and 1 equipment officer, all the officer casualties were among the general duties branch.

(iii) The number of deaths due to accidents while flying on duty in 1936 was 88, compared with 40 in 1935. Thus 46·5 per cent. of the total flying casualties resulted in death, compared with 41, 32 and 43 in 1935, 1934 and 1933. In 1936 74·5 per cent. of the total deaths from injury were due to flying accidents, compared with 31 per cent. in 1935 and 41 per cent. in 1934. Of the 88 deaths 41 were officers and 47 were airmen ; there were no deaths among cadets. Of the 47 airmen killed, 15 were either qualified airman pilots or pupil pilots under training.

(iv) There were 5 invalidings from the service as a result of flying accidents. Of these, 3 were invalided as the result of injuries sustained in previous years and 2 were invalided as a result of recent injuries.

(v) Of the total of 101 injured as a result of flying accidents, 36 were officers of the general duties branch, 1 was a medical officer, 2 were cadets and 62 were airmen, of whom 22 were airman pilots either qualified or under training.

(vi) In 1936, excluding cases resulting in death, the average duration of each case was 26 days in hospital or sick quarters, compared with 45 days in 1935 and 54 and 45 in 1934 and 1933.

34. *Injuries caused by airscrews.*—During 1936 there were 15 cases of injuries caused by airscrews (14 on duty, 1 off duty) compared with 11 in 1935 and 21 and 13 in 1934 and 1933. There was 1 death. Twelve of the 15 cases received the injuries whilst handling the airscrew, 1 walked into a revolving airscrew, and was killed, and the remaining 2 occurred during the manoeuvring of aircraft on the ground.

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35. *Injuries sustained while starting motor engines.*—During 1936, 29 cases of injury from this cause occurred, compared with 18 in 1935, of which 22 occurred on duty. There were no deaths or invalidings.

36. *Injuries, the result of motor accidents.*—(i) There were 345 cases of injury from this cause as compared with 291 in 1935, while the percentage of injuries from motor accidents to the total injuries was 12, the figures for 1935, 1934 and 1933 being 12, 15 and 18. Of the 345 cases, 26 occurred on duty. There were 10 deaths, 2 of which occurred on duty, and 5 cases were invalided from the service. One of those invalided was on duty when the accident occurred. The numbers of deaths and invalidings from the service as a result of injuries received in motor accidents for the years 1933 to 1936 were as follows :—

	1936.	1935.	1934.	1933.
Deaths	10	13	18	20
Invalids	5	7	4	9

(ii) Injuries resulting from motor accidents are further analysed in the four following groups :—

(*a*) *Motor cycles—occupants.*—During 1936, 188 cases, or 54.5 per cent. of all motor accidents resulting in injury, and 7 per cent. of all injuries, occurred to occupants of motor cycles, as compared with 63 and 8 per cent. for 1935. Of the 188 cases 5 were on duty. Three deaths, all occurring off duty, resulted, and there were 3 invalidings, also the result of accidents off duty. In 1935 there were 12 deaths and 5 invalidings.

(*b*) *Motor cars—occupants.*—Ninety-four cases of injury due to this cause occurred, 3 being on duty, compared with 76 in 1935. There was 1 death and 1 invaliding, the result of accidents off duty.

(*c*) *Lorries or tenders—occupants.*—There were 9 cases of injury due to this cause, all occurring on duty. There was 1 death on duty, and 1 invaliding due to an accident on duty.

(*d*) *Motor vehicles, all types—non-occupants.*—There were 54 cases of injury to personnel, occasioned by vehicles of which they were not occupants, compared with 14 in 1935. Nine cases were on duty. There were 5 deaths, 1 of which occurred on duty.

37. *Injuries sustained in athletics, games and physical recreation.*—During 1936, 1,270 cases of injury due to athletics, games and physical recreation occurred, an incidence of approximately 27 per 1,000 of strength, compared with 1,113, 1,148 and 1,214, and incidences of 32, 37 and 39 per 1,000 in 1935, 1934 and 1933. There were no deaths from injuries received in games organised by

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the service, but 7 deaths occurred, 5 off duty from injuries sustained in games not so organised, and 2 on leave. In 2 cases invaliding was necessary on account of injuries received on duty in games organised by the service. Of the 1,270 cases 1,038, or 82 per cent. of the injuries received in games, occurred in organised games. If the total injuries are considered, this represents 37 per cent. occurring in organised games. Football accounted for 889 (70 per cent.) of these injuries, the most common being synovitis of the knee joint 205, sprains of the ankle joint 121, and concussion 56.

38. *Wounds in Action.*—(i) *Air Action.*—There were 4 cases of wounds received in air action, 2 of which proved fatal.

(ii) *Ground action.*—Two cases occurred, neither of which resulted in death.

In addition to the personnel wounded in action, 3 airmen were wounded by unknown assailants ; 1 of the airmen succumbed to his injuries.

39. *Accidental gun-shot wounds.*—In 1936, 7 cases occurred compared with 13 cases in 1935. Of these 7 cases, 4 occurred off duty, resulting in 1 death and 1 invaliding.

40. *Injuries sustained in workshops.*—Nineteen cases of injury were reported, compared with 22 in 1935, and 33 in 1934. There were no deaths or invalidings.

41. *Animal Bites.*—There were 4 cases due to this cause.

42. *Other causes of injury.*—Eight hundred and eighty-six cases of injury, not falling within categories dealt with in the preceding paragraphs, occurred in 1936, compared with 883 in 1935. Of the 886 cases, 302 occurred on duty, 540 off duty, and in 44 cases the information was incomplete. Of the cases on duty 3 resulted in death, and 2 were invalided from the service. Among the cases occurring off duty, there were 4 deaths, of which 2 were due to suicide, 1 to a boating accident, and 1 airman was found decapitated on a railway line. Nine cases of injury occurred due to " fights."

Nosological Tables

43. Table XII, page 32, is the chief nosological table of the report, and analyses the incidence of diseases, injuries, deaths and invalids in the force at home, abroad, and as a whole. Certain diseases and injuries marked with an asterisk in this table are responsible for the majority of the total sickness, and are analysed in greater detail in Table VII, page 26, by geographical areas and for the total force. Table VII also indicates the relative incidence of tropical diseases in areas abroad. The figures for the Fleet Air Arm which are shown separately in Table I, page viii, are included in the home and abroad figures as appropriate in Tables VII and XII. The heading " no appreciable disease " includes all cases,

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except mental and epileptic, which were admitted to hospital or sick quarters for observation, and in which no diagnosis of injury or disease was made.

44. (i) The principal causes of non-effectiveness, with the average number of sick daily for each cause are shown below, and the figures for 1935, 1934, and 1933 are inserted for comparison :—

	Average number of sick daily, excluding cases of not more 48 hours' duration.			
	1936.	1935.	1934.	1933.
Injuries	140·1	127·8	124·0	133·0
Upper air passage infections (excluding tonsillitis) ..	63·3	40·9	24·4	21·6
Gonorrhoea	61·2	51·9	45·5	47·6
Tonsillitis, acute	41·7	29·8	25·2	23·7
Inflammation of areolar tissue (including boils, abscess, carbuncle, cellulitis)	32·5	20·1	20·1	21·3
Rubella	31·0	0·6	4·1	2·6
Rheumatism, acute	27·2	14·7	4·2	5·6
Appendicitis	24·5	17·0	16·7	18·2
Influenza	18·0	9·8	9·7	37·9
Otitis media, acute	15·5	9·4	3·2	3·4
Malaria	15·3	13·3	15·9	17·0
Venereal disease (excluding gonorrhoea)	13·3	7·8	8·0	9·4
Urethritis (non-venereal) ..	12·4	10·9	7·2	9·3
Tuberculosis (all forms) ..	11·9	4·7	9·9	9·1
Diseases of joints	11·7	10·8	10·5	10·3
Enteritis acute, and gastro-enteritis	11·3	8·1	8·7	7·0
Hernia	11·2	5·6	5·6	6·5
Impetigo contagiosa ..	10·8	6·6	5·0	6·7
Mental diseases	10·3	5·0	3·2	4·7
Scarlet fever	10·2	7·9	2·8	1·3
Bronchitis	9·6	8·1	6·4	7·8
Psychoneurosis and psychasthenia	8·3	7·3	5·7	6·4
Hypertrophy of tonsils ..	6·1	5·9	7·9	7·1
Nephritis	6·0	2·2	2·0	1·2
Dysentery	5·9	7·2	11·1	4·5
Phlebotomus fever	4·9	5·4	5·7	8·3

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(ii) During 1936, injuries, upper air passage infections (excluding tonsillitis), and gonorrhoea were the chief causes of disablement. The numbers constantly sick on account of upper air passage infections, acute rheumatism and tuberculosis show marked increases, while those for dysentery and phlebotomus fever show decreases.

45. The following table shows the average number of days sickness per head in various geographical areas for the years 1936 and 1935.

	Average number of days' sickness per head (including cases of not more than 48 hours' duration).	
	1936.	1935.
United Kingdom	6·5	5·9
Mediterranean Littoral	9·0	8·9
India	9·5	8·6
Iraq	11·5	14·0

46. (i) The following table records certain causes of medical non-effectiveness, showing the average number of sick daily in the force at home and abroad.

	Average number of sick daily (excluding cases of not more than 48 hours' duration).	
	Home.	*Abroad.*
Injuries	97·6	42·6
Upper air passage infections (excluding tonsillitis) ..	54·1	9·2
Tonsillitis, acute	34·0	7·7
Gonorrhoea	29·4	31·8
Rheumatism, acute	25·4	1·9
Appendicitis	16·7	7·8
Influenza	14·5	3·5
Pulmonary tuberculosis ..	4·0	4·3
Venereal disease (excluding gonorrhoea)	3·0	10·3
Malaria	1·4	13·8
Phlebotomus fever	—	4·9

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(ii) At home it will be seen that the chief causes of medical non-effectiveness, as shown by the average number of sick daily, were injuries and upper air passage infections (excluding tonsillitis).

(iii) Abroad, the chief causes of medical non-effectiveness were injuries and gonorrhoea. The figures for pulmonary tuberculosis and venereal disease (excluding gonorrhoea) are higher than for 1935, after allowing for the increase in strength. Other diseases and injuries show no significant change.

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1936.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1936.	1928–35.	1921–27.	1936.	1928–35.	1921–27.	1936.	1928–35.	1921–27.
Dysentery	85	—	1	0·4	0·6	1·3	—	0·5	0·3	0·4	—	0·1
Enteric group ..	6	2	—	0·0	0·2	0·2	1·1	1·3	2·4	—	—	—
Influenza	1,000	—	—	4·8	6·5	6·0	—	0·2	0·1	—	—	—
Malaria	344	1	—	1·6	3·4	7·4	0·6	0·8	1·2	—	—	0·2
Pneumonia	90	10	1	0·4	0·4	0·5	5·5	2·9	4·9	0·4	0·1	—
Pyrexia of unknown origin	123	—	—	0·6	0·3	0·6	—	—	0·1	—	—	—
Phlebotomus fever ..	252	—	—	1·2	2·9	6·8	—	—	—	—	—	—
Tuberculosis ..	52	3	38	0·3	0·3	0·3	1·7	2·3	3·9	14·4	15·0	13·5
Venereal diseases ..	435	1	1	2·1	3·1	5·0	0·6	—	—	0·4	0·4	0·9
Pyaemia and septicaemia	13	9	1	0·1	0·0	0·0	5·0	1·9	2·2	0·4	0·1	—
Other diseases due to infection	9,345	7	17	44·4	30·3	25·9	3·9	3·4	1·5	6·4	4·1	1·9
Contacts and carriers (patients in hospital or sick quarters) ..	68	—	—	0·3	0·6	0·3	—	—	—	—	0·2	0·1
Nervous system and brain	333	4	85	1·6	1·6	1·9	2·2	2·1	2·2	32·2	28·8	24·7
Eye	181	—	4	0·9	1·1	1·1	—	—	—	1·5	6·4	8·4
Ear and nose ..	731	—	26	3·5	2·8	1·8	—	0·3	—	9·8	5·2	11·7
Circulatory system..	145	3	13	0·7	0·9	1·2	1·7	3·3	2·7	4·9	8·3	8·0
Lymphatic system ..	21	—	1	0·1	0·1	0·1	—	0·4	0·1	0·4	1·5	1·0
Respiratory system (excluding tuberculosis and pneumonia)	599	4	20	2·9	2·9	2·9	2·2	0·7	0·9	7·6	4·2	4·0
Teeth and gums ..	112	—	—	0·5	0·7	0·6	—	—	—	—	0·1	0·2
Digestive system ..	1,509	10	3	7·2	9·3	7·8	5·5	4·0	5·2	1·1	4·0	3·5
Disorders of nutrition and metabolism	10	—	7	0·1	0·1	0·0	—	0·2	0·2	2·7	1·3	0·6
Generative system ..	325	—	—	1·6	2·0	1·7	—	—	—	—	0·3	0·1
Organs of locomotion	464	—	9	2·2	2·9	2·9	—	—	—	3·4	7·6	10·8
Areolar tissue or skin	1,212	—	1	5·8	5·8	6·3	—	0·1	—	0·4	0·9	1·1
Urinary organs ..	229	4	17	1·1	1·0	0·6	2·2	0·9	0·5	6·4	3·0	2·8
Tumours and cysts..	72	4	2	0·3	0·4	0·6	2·2	2·2	1·3	0·8	0·8	0·4
Poisons	234	1	1	1·1	0·4	0·3	0·6	1·6	0·7	0·4	—	0·1
Debility	35	—	—	0·2	0·2	0·5	—	—	—	—	—	0·3
Other diseases ..	213	—	—	1·0	0·9	0·7	—	0·1	—	—	0·1	0·1
Total: all diseases ..	18,238	63	248	87·0	81·8	85·3	35·0	28·9	30·4	94·0	92·4	94·5
Total: all injuries ..	2,810	118	16	13·0	18·2	14·7	65·0	71·1	69·6	6·0	7·6	5·5
Total: all disabilities	21,048	181	264	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

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Table III.—Sickness at Home and Abroad, analysed by Disease and Injury Groups

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total Force.			Home.			Abroad.			Total Force.		
	1936.	Average 1928–35.	Average 1921–27.	1936.	Average 1928–35.	Average 1921–27.	1936.	Average 1928–35.	Average 1921–27.	1936.	Average 1928–35.	Average 1921–27.	1936.	Average 1928–35.	Average 1921–27.	1936.	Average 1928–35.	Average 1921–27.
Diseases caused by infection ..	239·1	*163·4*	*174·7*	264·8	*302·1*	*463·5*	245·6	*202·2*	*254·9*	11	*14*	*16*	15	*15*	*16*	12	*15*	*16*
Contacts and carriers (patients in hospital or sick quarters) ..	1·3	*3·3*	*1·8*	1·8	*1·3*	*0·8*	1·4	*2·7*	*1·5*	10	*16*	*12*	23	*14*	*17*	14	*16*	*13*
Effects of parasites	0·7	*1·1*	*0·6*	2·6	*2·7*	*2·5*	1·2	*1·5*	*1·1*	9	*20*	*11*	18	*21*	*24*	14	*20*	*19*
Diseases of nervous system and brain	5·6	*6·1*	*7·9*	11·0	*9·1*	*12·4*	6·9	*6·9*	*9·2*	27	*35*	*32*	53	*43*	*54*	37	*38*	*40*
Diseases of the eye	3·3	*4·4*	*4·9*	5·2	*5·3*	*5·5*	3·8	*4·7*	*5·1*	15	*19*	*19*	27	*22*	*32*	19	*20*	*23*
Diseases of the ear and nose ..	12·9	*9·6*	*7·5*	22·3	*16·8*	*11·6*	15·3	*11·6*	*8·6*	25	*20*	*21*	14	*16*	*24*	21	*18*	*22*
Diseases of the circulatory system ..	2·7	*3·9*	*4·2*	4·0	*3·9*	*8·9*	3·0	*3·9*	*5·5*	26	*33*	*29*	30	*38*	*45*	27	*34*	*36*
Diseases of the lymphatic and ductless glands	0·2	*0·4*	*0·3*	1·1	*0·5*	*0·3*	0·4	*0·4*	*0·3*	22	*46*	*39*	60	*48*	*63*	45	*47*	*46*
Diseases of the respiratory system ..	11·7	*11·0*	*12·8*	14·9	*15·5*	*15·9*	12·5	*12·2*	*13·6*	21	*19*	*17*	17	*17*	*20*	20	*19*	*18*
Diseases of the teeth and gums ..	2·2	*2·8*	*2·9*	2·7	*2·8*	*3·2*	2·3	*2·8*	*3·0*	10	*11*	*10*	9	*11*	*10*	9	*11*	*10*
Diseases of the digestive system ..	27·1	*37·3*	*30·9*	44·8	*43·4*	*51·7*	31·5	*39·0*	*36·7*	20	*20*	*21*	22	*20*	*18*	21	*20*	*20*
Diseases due to disorders of nutrition or metabolism	0·1	*0·4*	*0·2*	0·4	*0·3*	*0·2*	0·2	*0·4*	*0·2*	72	*32*	*29*	38	*51*	*38*	55	*36*	*31*
Diseases of the generative system ..	4·5	*6·8*	*6·6*	13·7	*12·5*	*12·1*	6·8	*8·4*	*8·1*	21	*26*	*21*	28	*23*	*21*	25	*25*	*21*
Diseases of the organs of locomotion	9·1	*11·2*	*12·8*	11·5	*14·6*	*15·6*	9·7	*12·2*	*13·5*	19	*24*	*19*	22	*20*	*20*	20	*23*	*19*
Diseases of the areolar tissue or skin	23·6	*24·7*	*32·0*	30·6	*23·3*	*23·7*	25·3	*24·3*	*29·7*	17	*17*	*17*	16	*16*	*17*	17	*17*	*17*
Diseases of the urinary organs ..	4·1	*3·7*	*2·2*	6·8	*5·6*	*3·7*	4·8	*4·2*	*2·6*	32	*32*	*30*	32	*33*	*39*	32	*32*	*34*
Tumours and cysts	1·1	*1·9*	*2·6*	2·5	*1·8*	*2·8*	1·5	*1·9*	*2·6*	37	*21*	*18*	30	*33*	*23*	34	*24*	*20*
Poisons	6·2	*0·6*	*0·8*	1·1	*4·3*	*3·5*	4·9	*1·7*	*1·6*	6	*11*	*8*	7	*10*	*13*	6	*10*	*11*
All other diseases	3·5	*3·1*	*3·7*	5·5	*3·8*	*7·5*	4·0	*3·3*	*4·8*	12	*10*	*12*	12	*12*	*20*	12	*11*	*15*
Total, all diseases	359·2	*295·7*	*309·3*	447·2	*469·6*	*645·3*	381·3	*344·3*	*402·6*	14	*17*	*18*	18	*17*	*18*	15	*17*	*18*
General injuries	5·7	*8·2*	*5·7*	9·7	*9·6*	*14·4*	6·7	*8·6*	*8·1*	26	*29*	*18*	14	*21*	*16*	22	*26*	*17*
Local injuries	46·9	*65·3*	*58·0*	67·5	*74·7*	*70·0*	52·1	*68·0*	*61·4*	18	*21*	*21*	17	*17*	*20*	18	*20*	*20*
Total, all injuries	52·5	*73·5*	*63·7*	77·3	*84·3*	*84·4*	58·7	*76·6*	*69·5*	19	*22*	*20*	17	*17*	*19*	18	*20*	*20*
Total, all disabilities	411·7	*369·2*	*373·0*	524·5	*554·0*	*729·7*	440·0	*420·9*	*472·1*	15	*18*	*18*	18	*17*	*18*	16	*18*	*18*

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TABLE IV.—PULMONARY TUBERCULOSIS, 1936.

Age.	No. of cases.			Incidence per 1,000 of strength.	Trade group.	No. of cases.	Incidence per 1,000 of strength.	Length of service.	No. of cases.	Incidence per 1,000 of strength.	Group of units.	No. of cases.	Incidence per 1,000 of strength.
	Home.	Abroad.	Total.										
Under 20 ..	6	1	7	0·7	Officers, cadets and airman pilots ..	3	0·6	Under 1 year ..	7	0·5	Flying units ..	13	0·6
20–24 ..	6	3	9	0·5	Apprentices ..	3	0·7	1 year and under 5 years.	8	0·7	Depôts	9	0·6
25–29 ..	8	5	13	1·2	Aircrafthands ..	6	0·6	5 years and under 10 years.	8	0·7	Miscellaneous units	16	1·4
30–34 ..	1	2	3	0·7	Clerks and office workers.	7	1·5						
35–39 ..	2	2	4	1·3	Wireless operators, riggers and armourers.	2	0·8	10 years and over.	15	1·4			
40–44 ..	1	—	1	0·6	Drivers and open-air workers.	—	—						
45 and over..	1	—	1	1·4	Fitters and mates	7	0·6						
					Workshop workers	6	1·5						
					Metal workers ..	2	2·7						
					Other skilled trades	2	0·9						
Total ..	25	13	38	0·8	Total	38	0·8	Total	38	0·8	Total	38	0·8

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TABLE V.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS, 1936.

Age last birthday.	Average strength.			Case incidence per 1,000 of strength.								
				Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen—												
Under 18	3,486	—	3,486	794	—	793	52	—	52	846	—	846
18 and 19	5,982	145	6,127	470	*	469	51	*	51	521	*	521
20 and 21	5,607	1,321	6,928	395	507	416	64	80	67	459	587	483
22 and 23	4,031	2,252	6,283	328	508	392	60	90	71	388	598	463
24 and 25	2,901	2,650	5,551	271	423	343	56	87	71	327	510	414
26 and 27	2,750	1,457	4,207	237	456	312	53	74	60	290	530	373
28 and 29	2,443	643	3,086	190	477	250	46	104	58	236	581	308
30 to 34	2,813	1,060	3,873	186	385	241	27	53	34	213	438	275
35 to 39	1,761	812	2,573	178	374	240	20	42	27	198	416	267
40 and over	1,002	443	1,445	189	375	246	26	52	34	215	427	280
Airmen—all ages	32,776	10,783	43,559	367	450	388	50	77	57	417	527	444
Officers and Cadets—all ages	3,047	1,228	4,275	271	427	316	77	77	77	348	504	393
All ranks	35,823	12,011	47,834	359	447	381	53	77	59	412	525	440

* Not calculated: strength very small.

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TABLE VI.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhoea—acute ..	147	4·1	28·4	71	145	12·1	30·4	77	292	6·1	58·8	74
relapse ..	5	0·1	1·1	78	6	0·5	1·4	86	11	0·2	2·5	82
Total ..	152	4·2	29·4	71	151	12·6	31·8	77	303	6·3	61·2	74
Syphilis—admissions :												
Primary	17	0·5	1·8	38	8	0·7	0·8	35	25	0·5	2·5	37
Secondary	5	0·1	0·5	34	3	0·2	0·3	34	8	0·2	0·7	34
Tertiary	2	0·1	0·4	72	1	0·1	0·2	75	3	0·1	0·6	73
Congenital	—	—	—	—	—	—	—	—	—	—	—	—
For further treatment	2	0·1	0·1	12	2	0·2	0·0	5	4	0·1	0·1	8
Total	26	0·7	2·7	38	14	1·2	1·3	33	40	0·8	4·0	36
Soft chancre	5	0·1	0·3	25	87	7·2	8·9	38	92	1·9	9·3	37
All venereal diseases :												
1936	183	5·1	32·5	65	252	21·0	42·0	61	435	9·0	74·5	63
1935	*141*	*5·6*	*25·2*	*65*	*192*	*19·5*	*34·5*	*66*	*333*	*9·5*	*59·7*	*65*
1934	*141*	*6·6*	*22·8*	*59*	*162*	*17·6*	*30·7*	*69*	*303*	*9·9*	*53·5*	*65*
1933	*158*	*7·2*	*27·2*	*63*	*197*	*21·9*	*29·8*	*55*	*355*	*11·5*	*57·0*	*59*
1932	*169*	*7·3*	*28·7*	*62*	*191*	*21·6*	*31·2*	*60*	*360*	*11·3*	*59·9*	*61*
1931	*245*	*10·4*	*42·0*	*63*	*231*	*25·8*	*34·7*	*55*	*476*	*14·7*	*76·7*	*59*
1930	*293*	*12·7*	*50·6*	*63*	*224*	*25·4*	*30·2*	*49*	*517*	*16·1*	*80·6*	*57*
1929	*250*	*11·0*	*37·8*	*55*	*216*	*25·5*	*32·9*	*56*	*466*	*15·0*	*70·7*	*55*
1928	*302*	*13·5*	*44·6*	*54*	*254*	*31·3*	*34·4*	*50*	*556*	*18·2*	*79·0*	*52*
1927	*269*	*12·5*	*40·8*	*55*	*259*	*30·1*	*31·6*	*45*	*528*	*17·5*	*72·4*	*50*
1926	*357*	*14·9*	*59·5*	*61*	*208*	*23·0*	*31·8*	*56*	*565*	*17·1*	*91·3*	*59*
1925	*400*	*16·8*	*57·0*	*52*	*256*	*27·9*	*36·4*	*52*	*656*	*19·9*	*93·4*	*52*
1924	*432*	*19·2*	*59·3*	*50*	*272*	*30·0*	*44·0*	*59*	*704*	*22·3*	*103·3*	*54*
1923	*482*	*23·8*	*64·8*	*49*	*299*	*31·4*	*42·3*	*52*	*781*	*26·2*	*107·2*	*50*
1922	*525*	*24·9*	*76·1*	*53*	*263*	*33·5*	*34·4*	*48*	*788*	*27·2*	*110·5*	*51*
1921	*709*	*32·3*	*94·2*	*48*	*314*	*49·2*	*52·2*	*61*	*1,023*	*36·1*	*146·4*	*52*

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TABLE VII.—DETAILED NOSOLOGICAL TABLE OF

Disease.	Home. Average strength, 35,823. (Includes Fleet Air Arm at Home.)				Mediterranean Littoral. Average strength, 6,683.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
Diseases caused by Infection.								
Dysentery—								
Clinical, primary ..	—	—	—	—	2	0·3	0·1	20
,, recurrent ..	—	—	—	—	—	—	—	—
Bacillary, primary ..	—	—	—	—	28	4·2	1·7	22
,, recurrent ..	—	—	—	—	1	0·1	0·2	60
Amœbic, primary ..	—	—	—	—	1	0·1	0·1	45
,, recurrent ..	—	—	—	—	—	—	—	—
Total—dysentery ..	—	—	0·0	—	32	4·8	2·0	23
Enteric Group—								
Typhoid fever	2	0·1	0·1	20	1	0·1	0·1	40
Clinical enteric	—	—	—	—	—	—	—	—
Paratyphoid fever, A, B and C	—	—	—	—	1	0·1	0·2	58
Enteritis, acute	132	3·7	2·6	7	274	41·0	5·2	7
Influenza	797	22·2	14·5	7	139	20·8	2·2	6
Malaria—								
Clinical, primary	1	0·0	0·1	20	15	2·2	0·6	15
,, recurrent ..	3	0·1	0·1	8	7	1·0	0·2	11
Quartan, primary and recurrent	—	—	—	—	1	0·1	0·0	8
Benign, tertian, primary	7	0·2	0·5	26	88	13·2	3·3	14
,, ,, recurrent	13	0·4	0·6	16	31	4·6	1·2	14
Malignant, tertian, primary	1	0·0	0·1	24	25	3·7	1·2	18
,, ,, recurrent	2	0·1	0·2	29	2	0·3	0·1	10
Cachexia	—	—	—	—	—	—	—	—
Total—malaria	27	0·8	1·4	19	169	25·3	6·6	14
Pyrexia of unknown origin ..	17	0·5	0·5	10	65	9·7	1·4	8
Phlebotomus fever	—	—	—	—	80	12·0	1·5	7
Tuberculosis	37	1·0	6·7	70	9	1·3	2·7	111
Upper air passage infections	4,293	119·8	88·1	8	510	76·3	9·3	7
Venereal diseases	183	5·1	32·5	65	123	18·4	22·6	67
Other diseases caused by infection	3,077	85·9	119·6	14	401	60·0	16·4	15
All diseases caused by infection	8,565	239·1	266·2	11	1,804	269·9	70·3	14
All other diseases ..	4,301	120·0	231·3	20	1,126	168·5	64·4	21
All diseases	12,866	359·2	497·3	14	2,930	438·4	134·7	17
Injuries—								
General injuries	203	5·7	14·5	26	70	10·5	2·1	11
Local injuries	1,679	46·9	83·0	18	422	63·1	17·2	15
All injuries	1,882	52·5	97·6	19	492	73·6	19·3	14
All disabilities	14,748	411·7	594·9	15	3,422	512·0	154·1	16

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Diseases caused by Infection, 1936.

Iraq. Average strength, 1,954.				India. Average strength, 2,028.				Total Force. Average strength, 47,834.			
No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
		No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.			No. sick daily.	Duration of case. Days.
1	0·5	0·1	35	14	6·9	0·7	18	17	0·4	0·9	19
—	—	—	—	—	—	—	—	—	—	—	—
18	9·2	1·7	34	11	5·4	0·6	20	58	1·2	4·0	25
1	0·5	0·0	14	1	0·5	0·1	24	3	0·1	0·3	33
4	2·0	0·5	44	1	0·5	0·1	23	7	0·1	0·7	38
—	—	—	—	—	—	—	—	—	—	—	—
24	12·3	2·3	35	27	13·3	1·4	19	85	1·8	5·9	25
—	—	—	—	—	—	—	—	3	0·1	0·2	27
—	—	—	—	—	—	—	—	—	—	—	—
1	0·5	0·2	66	1	0·5	0·3	114	3	0·1	0·7	79
95	48·6	2·0	8	40	19·7	0·9	8	574	11·5	11·3	7
5	0·3	0·1	6	25	12·3	0·6	9	1,000	20·9	18·0	7
15	7·7	0·5	12	2	1·0	0·1	20	33	0·7	1·3	14
1	0·5	0·0	14	1	0·5	0·0	7	12	0·3	0·3	10
—	—	—	—	—	—	—	—	1	0·0	0·1	24
46	23·5	2·1	17	32	15·8	1·6	19	176	3·7	7·6	16
7	3·6	0·4	22	11	5·4	0·4	14	65	1·4	2·8	16
10	5·1	0·8	29	9	4·4	0·5	20	49	1·0	2·8	21
1	0·5	0·1	28	2	1·0	0·0	8	7	0·1	0·3	18
1	0·5	0·0	18	—	—	—	—	1	0·0	0·0	18
81	41·5	4·0	18	57	28·1	2·7	18	344	7·2	15·3	16
34	17·4	1·1	11	4	2·0	0·1	5	123	2·6	3·1	9
102	52·2	2·1	8	67	33·0	1·2	7	252	5·3	4·9	7
3	1·5	1·0	124	1	0·5	1·1	390	52	1·1	11·9	84
158	80·9	3·7	9	127	62·6	2·3	7	5,176	108·2	105·0	7
29	14·8	4·9	62	14	6·9	2·3	61	435	9·0	74·5	63
89	45·5	4·1	17	71	35·0	3·0	15	3,698	77·3	145·4	14
621	317·8	25·5	15	434	214·0	15·9	13	11,745	245·6	396·5	12
404	206·8	26·5	24	353	174·1	23·8	25	6,493	135·7	365·0	21
1,025	524·5	52·0	19	787	388·1	39·7	18	18,238	381·3	761·4	15
12	6·1	0·8	27	14	6·9	1·3	33	320	6·7	19·1	22
138	70·6	6·1	16	137	67·6	9·5	25	2,490	52·1	121·0	18
150	76·8	7·0	17	151	74·5	10·7	26	2,810	58·7	140·1	18
1,175	601·3	59·0	18	938	462·6	50·4	20	21,048	440·0	901·6	16

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TABLE VIII.—SICKNESS IN DIFFERENT TYPES OF UNIT, 1936.

Type of unit.		Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	225·6	0·7	3·5	9·6	16	470·0	1·3	2·3	22·1	17	291·2	0·9	3·2	13·0	16
	Injury	61·2	4·0	0·5	3·1	19	83·6	7·2	0·2	3·9	17	67·2	4·8	0·4	3·3	18
	Total	286·8	4·7	4·0	12·7	16	553·6	8·5	2·5	26·0	17	358·4	5·7	3·6	16·3	17
Depôts (store and repair), ground schools and armoured car companies.	Disease	462·2	1·2	6·9	17·3	14	368·8	2·2	2·7	19·9	20	440·1	1·4	5·9	17·9	15
	Injury	41·1	0·2	0·2	2·3	20	63·3	2·2	0·3	2·8	16	46·4	0·7	0·3	2·4	19
	Total	503·3	1·4	7·1	19·6	14	432·1	4·4	3·0	22·7	19	486·5	2·1	6·2	20·3	15
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	450·9	1·8	9·0	16·7	14	504·5	2·5	3·6	24·3	18	463·8	2·0	7·7	18·5	15
	Injury	52·8	—	0·3	2·6	18	82·9	2·5	0·3	3·9	17	60·0	0·6	0·3	2·9	18
	Total	503·7	1·8	9·3	19·3	14	587·4	5·0	3·9	28·2	18	523·8	2·6	8·0	21·4	15
All units	Disease	359·2	1·1	6·0	13·9	14	447·2	1·8	2·7	22·0	18	381·3	1·3	5·2	15·9	15
	Injury	52·5	1·8	0·4	2·7	19	77·3	4·6	0·3	3·5	17	58·7	2·5	0·3	2·9	18
	Total	411·7	2·9	6·4	16·6	15	524·5	6·4	3·0	25·5	18	440·0	3·8	5·5	18·8	16

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TABLE IX.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS, 1936.

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	33·7	62·2	5·1	12·2	33·7	150·5	297·4	75·7	373·1
Aircrafthands	32·6	181·2	10·7	16·8	34·6	256·3	532·2	65·1	597·3
Apprentices and boys ..	22·6	276·0	—	12·1	27·0	338·5	676·2	43·9	720·1
Wireless operators, riggers, and armourers	16·3	55·4	15·9	11·0	30·9	164·8	294·3	55·7	350·0
Clerks and office workers ..	17·9	53·0	10·7	11·4	34·3	170·5	297·8	55·4	353·2
Drivers and open air workers	15·4	67·2	13·4	11·5	39·0	199·0	345·5	65·9	411·4
Fitters	10·6	65·5	8·7	10·1	25·2	147·0	267·1	53·3	320·4
Metal workers	6·8	54·3	14·9	20·4	27·1	184·5	308·0	55·6	363·6
Workshop workers	16·8	64·8	13·3	12·0	37·1	192·0	336·0	64·2	400·2
Other skilled workers ..	16·4	75·1	7·7	10·1	40·0	170·9	320·2	43·3	363·5
All ranks	20·9	108·2	9·0	12·5	31·6	199·0	381·3	58·7	440·0

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Table X.—Injuries, 1936.

—	Number of cases.							
	Aircrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	14	—	189	26	22	332	583	*21*
Organized games ..	—	1,038	—	—	—	—	1,038	*37*
Off duty	1	201	1	313	6	545	1,067	*39*
Not stated	—	31	—	6	1	47	85	*3*
Total	15	1,270	190	345	29	924	2,773	*100*
Nature of injury:								
General	2	14	120	99	—	52	287	*10*
Head or face ..	2	153	40	119	—	187	501	*18*
Trunk	—	84	6	8	—	73	171	*6*
Upper extremity .	10	166	8	42	21	164	411	*15*
Lower extremity .	1	853	16	77	8	448	1,403	*51*
Total	15	1,270	190	345	29	924	2,773	*100*
Deaths:								
On duty	1	—	88	2	—	5	96	*81*
Organized games	—	—	—	—	—	—	—	—
Off duty	—	7	1	8	—	6	22	*19*
Total	1	7	89	10	—	11	118	*100*

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TABLE XI.—FLYING CASUALTIES ON DUTY, 1936.

	Number of casualties.				
	1932.	1933.	1934.	1935.	1936.
Officers.					
Killed	*29*	*26*	*12*	*22*	41
Injured	*37*	*23*	*24*	*22*	37
Cadets.					
Killed	—	*1*	*3*	*1*	—
Injured	*1*	*4*	*2*	*3*	2
Airmen.					
Killed	*17*	*21*	*9*	*17*	47
Injured	*34*	*36*	*24*	*33*	62
All ranks.					
Killed	*46*	*48*	*24*	*40*	88
Injured	*72*	*63*	*50*	*58*	101
Total casualties	*118*	*111*	*74*	*98*	189
Average duration of each case (*days*) :—					
Deaths included	*24*	*26*	*36*	*27*	14
Deaths excluded	*39*	*45*	*54*	*45*	26

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936.

Disease.	Home. Average strength, 35,823.						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases caused by Infection.						Days.							Days.						Days.
Diphtheria	12	—	—	0·3	1·2	37	10	—	—	—	0·8	0·7	27	22	—	—	0·5	2·0	33
*Dysentery	—	—	—	—	0·0	—	85	—	1	2	7·1	5·8	25	85	—	1	1·8	5·9	25
*Enteric group	2	2	—	0·1	0·1	20	4	—	—	—	0·3	0·8	70	6	2	—	0·1	0·9	53
*Enteritis (acute) and gastro-enteritis (acute)	132	—	—	3·7	2·6	7	442	—	—	1	36·8	8·7	7	574	—	—	11·5	11·3	7
*Influenza (including influenzal pneumonia)	797	—	—	22·2	14·5	7	203	—	—	—	16·9	3·5	6	1,000	—	—	20·9	18·0	7
Leishmaniasis	1	—	—	0·0	0·1	48	5	—	—	—	0·4	0·2	18	6	—	—	0·1	0·4	23
*Malaria	27	—	—	0·8	1·4	19	317	1	—	1	26·4	13·8	16	344	1	—	7·2	15·3	16
Measles	244	—	—	6·8	8·4	13	2	—	—	—	0·2	0·1	20	246	—	—	5·1	8·6	13
Mumps	53	—	—	1·5	2·9	20	11	—	—	—	0·9	0·7	23	64	—	—	1·3	3·6	20
Pneumonia	64	7	1	1·8	6·0	34	26	3	—	2	2·2	2·4	33	90	10	1	1·9	8·4	34
*Pyrexia of unknown origin	17	—	—	0·5	0·5	10	106	—	—	—	8·8	2·6	9	123	—	—	2·6	3·1	9
Rheumatism (acute)	122	—	13	3·4	25·4	76	9	—	1	3	0·7	1·9	76	131	—	14	2·7	27·2	76
Rubella	1,324	—	—	36·9	30·8	9	5	—	—	—	0·4	0·2	11	1,329	—	—	26·5	31·0	85
*Phlebotomus fever	—	—	—	—	—	—	252	—	—	—	21·0	4·9	7	252	—	—	5·3	4·9	7
Scarlet fever	107	—	—	3·0	9·4	32	11	—	—	—	0·9	0·8	28	118	—	—	2·5	10·2	32
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis.																			
Pulmonary	25	2	23	0·7	4·0	58	13	1	8	11	1·1	4·3	120	38	3	31	0·8	8·3	79
Other	12	—	5	0·3	2·7	84	2	—	2	2	0·2	0·9	160	14	—	7	0·3	3·6	95
*TOTAL—TUBERCULOSIS	37	2	28	1·0	6·7	70	15	1	10	13	1·2	5·1	125	52	3	38	1·1	11·9	84

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Acute upper air passage infections.																		
Common cold	66	—	—	1·8	1·5	8	72	—	—	—	6·0	1·2	6	138	—	—	2·9	2·7	7
Laryngitis	50	—	—	1·4	0·9	7	7	—	—	—	0·6	0·2	11	57	—	—	1·2	1·1	7
Nasopharyngitis	1,668	—	—	46·5	31·7	7	249	—	—	—	20·7	4·0	6	1,917	—	—	40·1	35·7	7
Quinsy	89	—	—	2·5	2·9	12	33	—	—	—	2·7	1·3	15	122	—	—	2·6	4·2	13
Pharyngitis	743	—	—	20·7	13·8	7	73	—	—	—	6·1	1·3	6	816	—	—	17·1	15·1	7
Rhinitis, catarrhal ..	120	—	—	3·3	2·0	6	34	—	—	—	2·8	0·5	6	154	—	—	3·2	2·5	6
Tonsillitis	1,514	—	—	42·2	34·0	8	386	—	—	—	32·1	7·7	7	1,900	—	—	39·7	41·7	8
Vincent's angina	43	—	—	1·2	1·3	11	29	—	—	—	2·4	0·7	9	72	—	—	1·5	2·0	10
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	4,293	—	—	119·8	88·1	8	883	—	—	—	73·5	16·9	7	5,176	—	—	108·2	105·0	7
Vaccinia	283	—	—	7·9	5·5	7	—	—	—	—	—	—	—	283	—	—	5·9	5·5	7
Venereal diseases.																			
Gonorrhœa	152	—	—	4·3	29·4	71	151	—	—	1	12·6	31·8	77	303	—	—	6·3	61·2	74
Syphilis	26	1	1	0·7	2·7	38	14	—	—	1	1·2	1·3	33	40	1	1	0·8	4·0	36
Soft chancre	5	—	—	0·1	0·3	25	87	—	—	—	7·2	9·0	38	92	—	—	1·9	9·3	37
*TOTAL—VENEREAL DISEASES	183	1	1	5·1	32·5	65	252	—	—	2	21·0	42·0	61	435	1	1	9·0	74·5	63

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936—*continued*.

Disease.	Home. Average strength, 35,823						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Abscess, hand and finger	26	—	—	0·7	0·8	11	8	—	—	—	0·7	0·5	23	34	—	—	0·7	1·3	14
Abscess, other	58	—	—	1·6	2·5	16	21	—	—	—	1·7	0·7	13	79	—	—	1·7	3·2	15
Boils	207	—	—	5·8	4·6	8	109	—	—	—	9·1	3·3	11	316	—	—	6·5	7·9	9
Carbuncles	29	—	—	0·8	0·9	12	16	—	—	1	1·3	0·7	16	45	—	—	0·9	1·6	13
Cellulitis	360	—	—	10·1	10·6	11	261	—	—	—	21·7	7·9	11	621	—	—	13·0	18·5	11
Lymphangitis and lymph-adenitis	82	—	—	2·3	3·1	14	36	—	—	1	3·0	1·3	14	118	—	—	2·5	4·4	14
Osteo-myelitis, periostitis, and osteitis	16	—	2	0·4	1·9	43	6	—	—	2	0·5	1·3	78	22	—	2	0·5	3·1	52
Pyæmia, septicæmia ..	9	6	1	0·3	0·9	36	4	3	—	1	0·3	0·3	29	13	9	1	0·3	1·2	34
Ulcer	6	—	—	0·2	0·1	8	9	—	—	—	0·7	0·7	29	15	—	—	0·3	0·8	21
Other diseases caused by infection	74	6	1	2·1	4·5	22	72	1	—	—	6·0	2·3	12	146	7	1	3·1	6·8	17
TOTAL—DISEASES CAUSED BY INFECTION	8,565	24	47	239·1	266·2	11	3,180	9	12	29	264·8	130·3	15	11,745	33	59	245·6	396·5	12
Contacts and carriers (patients in hospital and sick quarters) ..	46	—	—	1·3	1·2	10	22	—	—	1	1·8	1·4	23	68	—	—	1·4	2·6	14
Effects of parasites ..	25	—	—	0·7	0·6	9	31	—	—	3	2·6	1·5	18	56	—	—	1·2	2·2	14

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Other Diseases classified by Systems.																		
Diseases of Nervous System and Brain.																		
Neuritis	37	—	1	1·0	2·6	26	19	—	—	6	1·6	3·0	58	56	—	1	1·2	5·6	37
Nerve paralysis	9	—	—	0·3	0·6	26	6	—	—	1	0·5	0·4	22	15	—	—	0·3	1·0	24
Epilepsy (including observation cases)	18	—	11	0·5	1·2	23	4	—	4	5	0·3	0·8	78	22	—	15	0·5	2·0	33
Psychasthenia and psychoneurosis	37	—	10	1·0	2·0	19	44	—	4	28	3·7	6·4	53	81	—	14	1·7	8·3	38
Mental diseases (including observation cases) ..	41	—	35	1·1	5·2	47	11	—	9	11	0·9	5·1	170	52	—	44	1·1	10·3	73
Other diseases of nervous system and brain ..	59	2	11	1·6	3·2	20	48	2	—	10	4·0	3·4	26	107	4	11	2·2	6·6	23
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	201	2	68	5·6	14·7	27	132	2	17	61	11·0	19·1	53	333	4	85	6·9	33·8	37
Diseases of the Eye.																			
Infections	96	—	2	2·7	3·6	14	38	—	—	4	3·2	2·2	21	134	—	2	2·8	5·9	16
Other diseases of the eye	22	—	2	0·6	1·2	20	25	—	—	10	2·1	2·4	35	47	—	2	1·0	3·6	28
TOTAL—DISEASES OF THE EYE	118	—	4	3·3	4·8	15	63	—	—	14	5·2	4·7	27	181	—	4	3·8	9·5	19
Diseases of Ear and Nose.																			
Otitis media, acute ..	192	—	—	5·4	14·1	27	28	—	—	—	2·3	1·4	18	220	—	—	4·6	15·5	26
Otitis media, chronic ..	28	—	18	0·8	3·2	42	15	—	2	4	1·2	1·2	29	43	—	20	0·9	4·4	37
Other diseases of ear and nose	242	—	6	6·8	14·3	22	226	—	—	6	18·8	7·9	13	468	—	6	9·8	22·1	17
TOTAL—DISEASES OF EAR AND NOSE	462	—	24	12·9	31·6	25	269	—	2	10	22·3	10·5	14	731	—	26	15·3	42·0	21

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936—*continued.*

Disease.	Home. Average strength, 35,823.						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the Circulatory System.																			
Endocarditis, acute ..	1	—	2	0·0	0·7	248	—	—	—	—	—	—	—	1	—	2	0·0	0·7	248
Valvular disease of the heart	10	—	5	0·3	1·1	42	1	—	—	—	0·1	0·1	28	11	—	5	0·2	1·2	41
Disease of myocardium ..	2	1	—	0·1	—	4	3	—	—	—	0·2	0·1	18	5	1	—	0·1	0·2	12
Disordered action of the heart	28	1	3	0·8	1·3	18	13	—	—	1	1·1	1·0	27	41	1	3	0·9	2·3	21
Varix	13	—	—	0·4	0·7	21	7	—	—	1	0·6	0·5	25	20	—	—	0·4	1·2	22
Other diseases of the circulatory system ..	43	1	3	1·2	3·0	26	24	—	—	6	2·0	2·3	35	67	1	3	1·4	5·3	29
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	97	3	13	2·7	6·9	26	48	—	—	8	4·0	3·9	30	145	3	13	3·0	10·9	27
Diseases of lymphatic system and ductless glands	8	—	1	0·2	0·5	22	13	—	—	5	1·1	2·1	60	21	—	1	0·4	2·6	45
Diseases of the Respiratory System. (*a*)																			
Bronchitis	92	—	3	2·6	4·6	18	87	—	—	5	7·2	5·0	21	179	—	3	3·7	9·6	20
Tracheitis	204	—	—	5·7	6·7	12	61	—	—	—	5·1	0·9	6	265	—	—	5·5	7·6	11
Asthma	25	—	3	0·7	1·5	22	6	—	—	2	0·5	0·6	37	31	—	3	0·6	2·1	24
Pleurisy	85	2	12	2·4	10·2	44	19	—	—	3	1·6	1·3	25	104	2	12	2·2	11·5	40

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Other diseases of the respiratory system ..	14	1	2	0·4	1·3	35	6	1	—	1	0·5	0·4	23	20	2	2	0·4	1·7	32
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	420	3	20	11·7	24·3	21	179	1	—	11	14·9	8·2	17	599	4	20	12·5	32·5	20
Diseases of teeth and gums	80	—	—	2·2	2·1	10	32	—	—	—	2·7	0·8	9	112	—	—	2·3	2·8	9
Diseases of the Digestive System (excluding tonsillitis).																			
Hypertrophy of tonsils ..	121	—	—	3·4	4·5	14	48	—	—	—	4·0	1·6	12	169	—	—	3·5	6·1	13
Gastritis, acute	112	—	—	3·1	2·6	9	71	—	—	—	5·9	2·1	11	183	—	—	3·8	4·7	9
Gastritis, chronic ..	7	—	—	0·2	0·3	14	7	—	—	—	0·6	0·4	19	14	—	—	0·3	0·6	16
Dyspepsia	40	—	—	1·1	1·5	14	27	—	—	—	2·2	1·0	13	67	—	—	1·4	2·5	14
Appendicitis	253	—	—	7·1	16·7	24	103	2	—	—	8·6	7·8	28	356	2	—	7·4	24·5	25
Hernia	106	—	—	3·0	8·8	30	22	—	—	1	1·8	2·3	39	128	—	—	2·7	11·2	32
Constipation	62	—	—	1·7	1·2	7	48	—	—	1	4·0	1·2	9	110	—	—	2·3	2·4	8
Colic	32	—	—	0·9	0·7	8	21	—	—	—	1·7	0·4	6	53	—	—	1·1	1·0	7
Hæmorrhoids	55	—	—	1·5	2·3	15	46	—	—	—	3·8	2·1	17	101	—	—	2·1	4·4	16
Jaundice	33	—	—	0·9	2·2	24	67	—	—	—	5·6	3·8	21	100	—	—	2·1	6·0	22
Other diseases of the digestive system	150	4	3	4·2	12·3	30	78	4	—	15	6·5	9·0	42	228	8	3	4·8	21·3	34
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	971	4	3	27·1	53·1	20	538	6	—	17	44·8	31·7	22	1,509	10	3	31·5	84·7	21
Diseases due to disorders of nutrition or metabolism	5	—	5	0·1	1·0	72	5	—	2	2	0·4	0·5	38	10	—	7	0·2	1·5	55

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 32.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936—*continued.*

Disease.	Home. Average strength, 35,823.						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases of the Generative System.						Days.							Days.						Days.
Phimosis	26	—	—	0·7	1·3	18	18	—	—	—	1·5	0·7	15	44	—	—	0·9	2·0	17
Balanitis	32	—	—	0·9	1·3	15	20	—	—	—	1·7	0·5	10	52	—	—	1·1	1·8	13
Urethritis	43	—	—	1·2	3·5	30	84	—	—	—	7·0	8·8	38	127	—	—	2·7	12·4	36
Varicocele	6	—	—	0·2	0·2	15	12	—	—	—	1·0	0·8	25	18	—	—	0·4	1·0	22
Hydrocele	14	—	—	0·4	0·8	20	5	—	—	—	0·4	0·3	23	19	—	—	0·4	1·1	21
Epididymitis	3	—	—	0·1	0·1	10	3	—	—	—	0·2	0·2	24	6	—	—	0·1	0·3	17
Other diseases of the generative system	37	—	—	1·0	2·0	20	22	—	—	—	1·8	1·2	20	59	—	—	1·2	3·2	20
TOTAL—DISEASES OF THE GENERATIVE SYSTEM	161	—	—	4·5	9·2	21	164	—	—	—	13·7	12·6	28	325	—	—	6·8	21·8	25
Diseases of Organs of Locomotion.																			
Diseases of the bone ..	16	—	1	0·4	1·7	39	9	—	—	2	0·7	1·1	43	25	—	1	0·5	2·8	41
Diseases of the joints ..	100	—	3	2·8	7·2	26	51	—	—	6	4·2	4·5	32	151	—	3	3·2	11·7	28
Myalgia and lumbago ..	95	—	—	2·7	2·7	10	40	—	—	—	3·3	1·3	12	135	—	—	2·8	4·0	11
Diseases of muscles, tendons and bursæ ..	85	—	1	2·4	2·9	12	33	—	—	1	2·7	1·1	13	118	—	1	2·5	4·0	12
Deformities of limbs ..	30	—	4	0·8	2·0	25	5	—	—	1	0·4	0·4	27	35	—	4	0·7	2·4	25
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	326	—	9	9·1	16·5	19	138	—	—	10	11·5	8·4	22	464	—	9	9·7	24·9	20

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Diseases of Areolar Tissue or Skin.																			
Impetigo	185	—	—	5·1	9·1	18	45	—	—	—	3·7	1·7	14	230	—	—	4·8	10·8	17
Scabies	83	—	—	2·3	2·9	13	11	—	—	—	0·9	0·3	9	94	—	—	2·0	3·2	12
Dermatitis	86	—	—	2·4	4·5	19	76	—	—	3	6·3	4·2	20	162	—	—	3·4	8·8	20
Urticaria	35	—	—	1·0	0·8	9	26	—	—	1	2·2	0·9	12	61	—	—	1·3	1·7	10
Eczema	38	—	—	1·1	3·0	29	13	—	—	2	1·1	1·0	28	51	—	—	1·1	4·0	29
Herpes	44	—	—	1·2	1·5	13	18	—	—	—	1·5	0·6	12	62	—	—	1·3	2·1	12
Psoriasis	20	—	—	0·6	1·4	25	1	—	—	—	0·1	0·1	43	21	—	—	0·4	1·5	26
Tinea cruris	148	—	—	4·1	5·7	14	47	—	—	—	3·9	1·1	9	195	—	—	4·1	6·8	13
Tinea, other	22	—	—	0·6	1·6	27	43	—	—	—	3·6	2·0	17	65	—	—	1·4	3·6	21
Ingrowing toe-nail ..	29	—	—	0·8	1·2	15	19	—	—	—	1·6	0·8	16	48	—	—	1·0	2·1	16
Other diseases of the skin	156	—	1	4·4	7·8	18	68	—	—	3	5·7	3·7	20	224	—	1	4·7	11·5	19
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN.	845	—	1	23·6	39·6	17	367	—	—	9	30·6	16·5	16	1,212	—	1	25·3	56·1	17
Diseases of Urinary Organs.																			
Nephritis	29	2	12	0·8	4·9	61	6	—	—	3	0·5	1·2	70	35	2	12	0·7	6·0	63
Pyelitis	13	—	—	0·4	1·3	37	6	—	—	1	0·5	0·7	46	19	—	—	0·4	2·1	40
Cystitis	18	—	—	0·5	1·3	25	9	—	—	—	0·7	0·8	33	27	—	—	0·6	2·1	28
Incontinence of urine ..	7	—	3	0·2	0·4	20	—	—	—	—	—	—	—	7	—	3	0·1	0·4	20
Albuminuria	32	—	—	0·9	1·6	18	11	—	—	—	0·9	0·3	11	43	—	—	0·9	1·9	16
Other diseases of urinary organs	48	—	2	1·3	3·6	28	50	2	—	7	4·2	4·2	30	98	2	2	2·0	7·8	29
TOTAL—DISEASES OF URINARY ORGANS ..	147	2	17	4·1	13·0	32	82	2	—	11	6·8	7·2	32	229	4	17	4·8	20·2	32
Tumours and Cysts.																			
Tumours, non-malignant	16	—	1	0·4	1·3	29	10	—	—	1	0·8	0·5	17	26	—	1	0·5	1·7	25
Tumours, malignant ..	5	2	—	0·1	2·1	151	4	2	—	2	0·3	1·4	131	9	4	—	0·2	3·5	142
Tumours, undiagnosed ..	1	—	1	0·0	0·1	32	1	—	—	—	0·1	0·0	10	2	—	1	0·0	0·1	21
Cysts	20	—	—	0·5	0·7	13	15	—	—	—	1·2	0·5	12	35	—	—	0·7	1·2	13
TOTAL—TUMOURS AND CYSTS	42	2	2	1·1	4·1	37	30	2	—	3	2·5	2·4	30	72	4	2	1·5	6·5	34

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936—*continued.*

Disease.	Home. Average strength, 35,823.						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Poisons.						Days.							Days.						Days.
Effects of alcohol	1	—	—	0·0	0·0	2	—	—	—	—	—	—	—	1	—	—	0·0	0·0	2
Other poisons	220	1	1	6·1	3·7	6	13	—	—	—	1·1	0·3	7	233	1	1	4·9	3·9	6
TOTAL—POISONS ..	221	1	1	6·2	3·7	6	13	—	—	—	1·1	0·3	7	234	1	1	4·9	3·9	6
No appreciable disease ..	108	—	—	3·0	3·7	13	49	—	—	—	4·1	1·3	10	157	—	—	3·3	5·0	12
Debility	18	—	—	0·5	0·5	10	17	—	—	2	1·4	0·9	19	35	—	—	0·7	1·4	14
TOTAL—ALL DISEASES	12,866	41	215	359·2	497·3	14	5,372	22	33	196	447·2	264·1	18	18,238	63	248	381·3	761·4	15
General Injuries.																			
Burns and scalds ..	6	—	—	0·2	0·3	16	15	8	—	—	1·2	0·3	8	21	8	—	0·4	0·6	10
Heat exhaustion and heat hyperpyrexia	1	—	—	0·0	0·1	19	19	—	—	1	1·6	1·0	19	20	—	—	0·4	1·0	19
Suffocation and strangulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drowning and effects of immersion	9	9	—	0·3	—	—	17	15	—	—	1·4	0·1	3	26	24	—	0·5	0·1	2

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Minor injuries	65	—	—	1·8	2·0	11	18	—	—	—	1·5	0·6	13	83	—	—	1·7	2·6	12
Multiple fractures ..	108	50	—	3·0	11·8	40	32	24	—	5	2·7	1·9	22	140	74	—	2·9	13·7	36
Gunshot wounds.. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Multiple wounds.. ..	2	—	—	0·1	0·1	26	—	—	—	2	—	0·2	—	2	—	—	0·0	0·4	71
Other injuries	12	—	1	0·3	0·2	8	16	—	—	1	1·3	0·4	8	28	—	1	0·6	0·6	8
*TOTAL—GENERAL INJURIES	203	59	1	5·7	14·5	26	117	47	—	9	9·7	4·6	14	320	106	1	6·7	19·1	22
Local Injuries.																			
(i) Head and Neck:																			
Contusions and wounds..	98	—	1	2·7	2·9	11	44	—	2	1	3·7	1·3	11	142	—	3	3·0	4·3	11
Gunshot wounds.. ..	—	—	—	—	—	—	1	1	—	—	0·1	—	—	1	1	—	0·0	0·0	—
Burns and scalds ..	13	—	—	0·4	0·3	10	1	—	—	—	0·1	0·0	8	14	—	—	0·3	0·4	10
Fracture of skull ..	19	4	4	0·5	3·1	60	10	4	—	1	0·8	0·8	28	29	8	4	0·6	3·9	49
Concussion of brain ..	166	—	2	4·6	9·0	20	65	—	—	3	5·4	4·1	23	231	—	2	4·8	13·0	21
Other fractures	27	—	—	0·8	1·3	18	14	—	—	—	1·2	0·6	16	41	—	—	0·9	1·9	17
Other injuries	34	—	—	0·9	1·3	14	15	—	—	—	1·2	0·7	18	49	—	—	1·0	2·1	15
TOTAL—HEAD AND NECK	357	4	7	10·0	18·0	18	150	5	2	5	12·5	7·5	18	507	9	9	10·6	25·6	18
(ii) Trunk:																			
Contusions and wounds..	69	—	—	1·9	1·9	10	23	—	—	—	1·9	0.6	10	92	—	—	1·9	2·6	10
Gunshot wounds.. ..	—	—	—	—	—	—	3	2	—	—	0·2	0·0	3	3	2	—	0·1	0·0	3
Fractures	9	—	1	0·3	1·7	67	11	—	—	3	0·9	1·2	39	20	—	1	0·4	2·8	52
Other injuries	36	—	—	1·0	1·2	12	14	1	—	—	1·2	0·2	6	50	1	—	1·0	1·4	10
TOTAL—TRUNK	114	—	1	3·2	4·8	15	51	3	—	3	4·2	2·0	15	165	3	1	3·4	6·8	15

* Analysed in further detail in table VII.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1936—*continued.*

Disease.	Home. Average strength, 35,823.						Abroad. Average strength, 12,011.							Total Force. Average strength, 47,834.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.
						Days.							Days.						Days.
(iii) Upper Extremity:																			
Contusions and wounds..	77	—	—	2·1	2·7	13	26	—	—	—	2·2	0·8	11	103	—	—	2·2	3·5	12
Gunshot wounds.. ..	4	—	—	0·1	0·2	18	2	—	—	—	0·2	0·0	5	6	—	—	0·1	0·2	14
Burns and scalds ..	5	—	—	0·1	0·3	24	5	—	—	—	0·4	0·1	9	10	—	—	0·2	0·4	16
Fractures..	164	—	—	4·6	11·4	26	46	—	—	1	3·8	3·0	24	210	—	—	4·4	14·5	25
Dislocations	22	—	—	0·6	0·9	15	15	—	—	—	1·2	0·7	17	37	—	—	0·8	1·6	15
Sprains	14	—	—	0·4	0·3	9	8	—	—	—	0·7	0·2	10	22	—	—	0·5	0·6	9
Other injuries	18	—	—	0·5	0·6	11	5	—	1	1	0·4	0·9	63	23	—	1	0·5	1·4	22
TOTAL—UPPER EXTREMITY	304	—	—	8·5	16·4	20	107	—	1	2	8·9	5·7	20	411	—	1	8·6	22·1	20
(iv) Total—Hand and Wrist	121	—	—	3·4	5·0	15	39	—	—	—	3·2	1·4	14	160	—	—	3·3	6·4	15
(v) Total—Rest of Limb	183	—	—	5·1	11·5	23	68	—	1	2	5·7	4·3	23	251	—	1	5·2	15·7	23
(vi) Lower Extremity:																			
Contusions and wounds..	160	—	—	4·5	4·9	11	118	—	—	—	9·8	3·1	10	278	—	—	5·8	8·0	10
Gunshot wounds.. ..	—	—	—	—	—	—	2	—	—	—	0·2	0·2	30	2	—	—	0·0	0·2	30

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Burns and scalds ..	12	—	—	0·3	0·8	25	15	—	—	1	1·2	1·2	29	27	—	—	0·6	2·0	27
Fractures	134	—	—	3·7	17·0	46	48	—	—	5	4·0	6·6	50	182	—	—	3·8	23·6	47
Dislocations	10	—	—	0·3	0·5	20	2	—	—	—	0·2	0·3	53	12	—	—	0·3	0·8	25
Sprains	232	—	—	6·5	5·8	9	145	—	—	1	12·1	3·8	10	377	—	—	7·9	9·6	9
Other injuries	356	—	4	9·9	14·8	15	173	—	—	1	14·4	7·6	16	529	—	4	11·1	22·4	15
TOTAL—LOWER EXTREMITY	904	—	4	25·2	43·8	18	503	—	—	8	41·9	22·7	17	1,407	—	4	29·4	66·6	17
(vii) Foot and Ankle ..	304	—	—	8·5	8·4	10	188	—	—	—	15·7	4·8	9	492	—	—	10·3	13·3	10
(viii) Knee	316	—	—	8·8	11·9	14	176	—	—	1	14·7	7·6	16	492	—	—	10·3	19·5	14
(ix) Rest of Limb ..	284	—	4	7·9	23·5	30	139	—	—	7	11·6	10·3	27	423	—	4	8·8	33·8	29
*TOTAL—ALL LOCAL INJURIES	1,679	4	12	46·9	83·0	18	811	8	3	18	67·5	38·0	17	2,490	12	15	52·1	121·0	18
*TOTAL—ALL INJURIES ..	1,882	63	13	52·5	97·6	19	928	55	3	27	77·3	42·6	17	2,810	118	16	58·7	140·1	18
*TOTAL—ALL DISEASES ..	12,866	41	215	359·2	497·3	14	5,372	22	33	196	447·2	264·1	18	18,238	63	248	381·3	761·4	15
*TOTAL—ALL DISABILITIES	14,748	104	228	411·7	594·9	15	6,300	77	36	223	524·5	306·7	18	21,048	181	264	440·0	901·5	16

* Analysed in further detail in Table VII.

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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1936

General

47. The incidence of total sickness for the force at home, including the Fleet Air Arm, was 704 per 1,000 of strength, compared with 581 in 1935 and average incidences of 565 and 774 per 1,000 for the two preceding periods. Excluding cases of not more than 48 hours' duration, the sickness incidence for 1936 was 412 per 1,000, compared with 343 in 1935 and averages of 369 and 373 for the two preceding periods. The number of sick daily, including cases of not more than 48 hours' duration was 17·8 per 1,000 in 1936, compared with 16·2 per 1,000 in 1935 and averages of 19·2 and 20·3 for the two preceding periods. Excluding cases of not more than 48 hours' duration, the number of sick daily was 16·7 per 1,000 in 1936, compared with 15·3 in 1935 and average figures of 18·4 and 18·6 for the two preceding periods. The average number of days sickness per head in 1936, including cases of not more than 48 hours duration, was 6·5 per 1,000, the figures for 1935 and the two preceding periods being 5·9, 7·0 and 7·4. Excluding cases of not more than 48 hours' duration, the average number of days sickness per head was 6·1 per 1,000, as compared with 5·6 in 1935 and averages of 6·7 and 6·8 for the two preceding periods.

48. (i) Including cases of not more than 48 hours' duration, the average duration of each case was 9 days, as compared with 10 days in 1935, and averages of 12 and 10 days for the two preceding periods. Excluding cases of not more than 48 hours, the average duration of each case in days was 15, compared with 16 in 1935 and an average of 18 days for the two preceding periods.

(ii) The increase in the sickness incidence from 343·0 per 1,000 in 1935 to 411·7 in 1936 is due mainly to an increase in the incidence of diseases caused by infection from 168·1 to 239·1, and within this group, rubella accounted for an increase of 36·5 per 1,000 and upper air passage infections and influenza, for increases of 13·4 and 10·0; other incidences show little variation from those of 1935.

(iii) The death rate at 2·9 per 1,000 shows no change from 1935, and compares with average incidences of 3·5 and 3·2 for the two preceding periods. The final invaliding rate was 6·4 as compared with 5·3 in 1935 and averages of 7·2 and 11·5 per 1,000 for the two preceding periods.

49. Table XIII, page 48, analyses for officers, cadets, and airmen by age groups, certain diseases which the chief nosological table over a number of years has shown to have been responsible for the largest part of the medical non-effectiveness at home. Table XIII also permits of a more detailed analysis of the incidence of disease at home in the age groups given in Table V, page 24.

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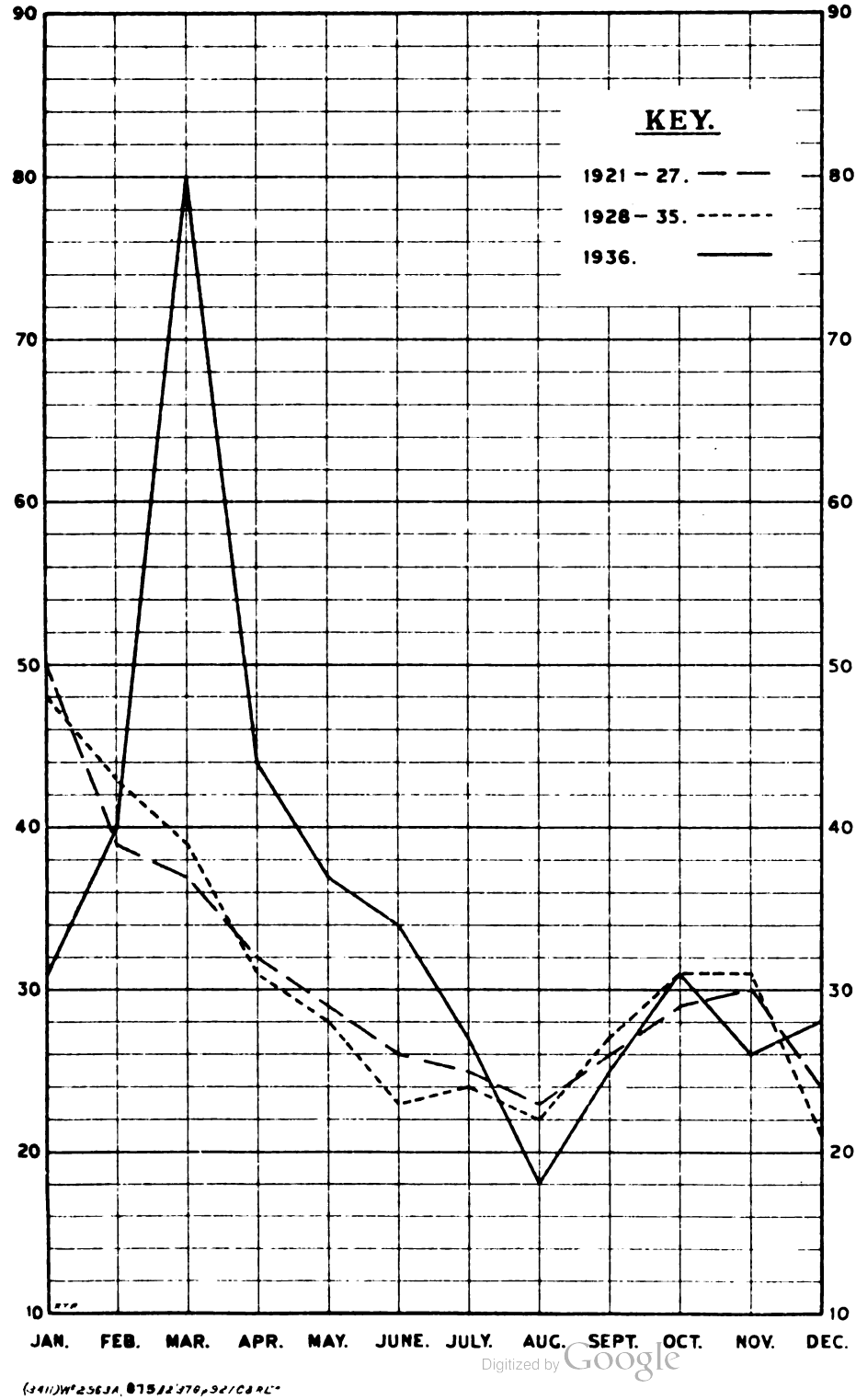
CHART I. SICKNESS AT HOME, — 1936.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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50. (i) The incidence of all disabilities for all ranks in 1936 was 412 per 1,000, compared with 343 in 1935 and incidences of 336, 412 and 355, per 1,000 for the years 1934, 1933 and 1932. In the age groups for airmen the incidence for all disabilities is highest at 846 per 1,000 in the under 18 group, and decreases with advancing age up to the 35–39 age group at 198, there being a slight rise among those of 40 and over. The figure 846 for the under 18 group shows a fall of 180 per 1,000 from 1935, when the highest figure yet recorded was reached. The fall is largely due to a decrease in the incidence of upper air passage infections.

(ii) The incidence of all diseases for airmen—all ages—is 367 per 1,000, compared with 271 for officers and cadets and 359 for all ranks. The all ranks figures for the years 1935–32 were 280, 260, 332 and 274 per 1,000. Considering the age groups for airmen alone the incidence of all diseases is highest in the youngest group at 794, and lowest in the age group 35–39 at 178 per 1,000.

(iii) The incidence of injury for airmen—all ages—is 50 per 1,000, compared with 77 for officers and cadets, and an incidence of 53 for all ranks. In the years 1935–32 the incidences for airmen—all ages—were 61, 76, 80, 78. For the age groups of airmen the highest incidence is found in the group 20–21 and the lowest in the group 35–39.

(iv) Of the individual diseases, influenza at 22 per 1,000 shows an increase as compared with 12 in 1935. The incidence of this disease was highest in the officers and cadets group at 42 per 1,000, followed by the under 18 group at 32 per 1,000. The lowest incidence is found in the 40 and over group at 9 per 1,000. Upper air passage infections show a decrease in the under 18 age group from 629 in 1935 to 325 per 1,000. Of the other groups, officers and cadets, 18–19, 20–21, 22–23, 24–25, 26–27 all show increases while there are only slight variations in the remaining groups. The incidence of venereal disease was highest in the age groups 22–23, 26–27, and 28–29 the figures being 8 per 1,000 for each, and lowest in the under 18 age group in which no case occurred. As regards respiratory diseases, the highest incidences occurred in the officers and cadets group at 15 per 1,000 and in the groups 20–21, 35–39, 40 and over, at 14 per 1,000 each, the incidence for all ranks being 12 per 1,000. The incidence of digestive diseases is highest at 41 per 1,000 in the 40 and over age group, compared with an incidence of 27 for all ranks.

51. (i) Table XIV, page 49, analyses the distribution of the same diseases as shown in Table XIII in the larger stations which have maintained an average strength of approximately 450 or over during the year. Andover and Sealand, shown individually in 1935, have been merged in " all other stations," and Digby, previously included in " all other stations," is now shown separately.

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(ii) The table shows that the highest incidence of all disabilities was at Uxbridge (898 per 1,000), followed by Eastchurch—(626), Cranwell (605), and Halton (604). In 1935, Cranwell and Halton showed the highest incidences with 509 and 637 per 1,000. The Fleet Air Arm at home showed the lowest all disabilities incidence with 156 per 1,000. For all stations at home the figure was 412 per 1,000.

(iii) As regards all diseases, Uxbridge with 835 per 1,000 recorded the highest incidence, and the Fleet Air Arm at home the lowest at 115. For all stations at home the incidence was 359 per 1,000.

(iv) Calshot and Eastchurch showed the highest injury incidences with 80 and 78 per 1,000, and Manston and the Fleet Air Arm at home, the lowest with 35 and 41 per 1,000. The incidence for all stations was 53 per 1,000.

(v) Other points of note are the low incidence of venereal disease at Halton, Gosport, and Digby, and the high incidence of upper air passage infections at Uxbridge (344 per 1,000), Cranwell (241), Eastchurch (202) and Halton (201). This high incidence may be explained by the fact that at Uxbridge a large percentage of the station personnel is composed of recruits, and at the remaining stations of the under 18 age group, which is particularly prone to this group of diseases. The Fleet Air Arm at home with an incidence of 25 per 1,000 has the lowest figure in this group.

52. Chart 1, facing page 44, records graphically the monthly case incidence at home of the total sickness per 1,000 of strength for 1936, and the two preceding periods. The high peak which has been noted to occur in January in years previous to 1935 is again absent. The low incidences in August and December correspond with the periods of summer and Christmas leave. There is a marked rise for March, corresponding with an outbreak of rubella at several stations.

Notes on Diseases

53. *Acute upper air passage infections.*—The incidence of this group of diseases increased from 106·4 per 1,000 in 1935 to 119·8 per 1,000 in 1936. The increase was mainly due to pharyngitis and nasopharyngitis, which showed a rise of 4·9 per 1,000, and to tonsillitis, quinsy and Vincent's angina, with a rise of 7·9 per 1,000.

54. *Influenza.*—The incidence per 1,000 rose from 12·2 in 1935 to 22·2, and the average number of sick daily was 14·5.

55. *Acute rheumatism.*—One hundred and twenty-two fresh cases occurred at home, giving an incidence of 3·4 per 1,000, compared with 57 fresh cases and an incidence of 2·3 per 1,000 in 1935. In addition, there were 15 cases remaining from 1935, making a total of 137 coming under treatment in 1936. Of these 15 cases, 11 returned to duty and 4 were invalided from the service. There were no deaths

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during the year, but 13 cases in all were invalided from the service, compared with 11 final invalids in 1935. The 122 fresh cases occurred among the following personnel—airmen, 71 ; aircraft apprentices at Halton, 34 ; aircraft apprentices at Cranwell, 3 ; boys at Cranwell, 13 ; and 1 boy at Eastchurch. Of the 71 airmen, 57 returned to duty, 3 were invalided, and 11 were remaining under treatment at the end of 1936. Of the 37 apprentices, 28 returned to duty, 4 were invalided and 5 remained under treatment at the end of the year ; of the 14 boys, 10 returned to duty, 2 were invalided and 2 remained under treatment.

56. *Measles, mumps, rubella and scarlet fever.*—The incidences of mumps and scarlet fever show little variation from the previous year, while for measles the incidence has risen from 0·2 in 1935 to 6·8 per 1,000 in 1936. Rubella, at 36·9 per 1,000 shows a marked increase, which was largely due to epidemics at Halton, Uxbridge, Henlow, Manston and Orpington, in March.

57. *Malaria.*—Of the 27 cases of malaria occurring at home, 18 were relapses, and in the remaining 9 the primary attack took place in the United Kingdom. Careful inquiry into the history of these primary cases showed that they had all recently returned from overseas where they were exposed to infection. In most cases a history of previous attacks of " malaise " or " fever " was obtained, the attacks not having been severe enough to cause the victim to report sick.

58. *Otitis media.*—(i) There were 192 cases of acute otitis media in 1936, giving an incidence of 5·4 per 1,000, compared with 115 cases and an incidence of 4·6 per 1,000 in 1935.

(ii) The number of chronic cases during 1936 was 28, giving an incidence of 0·8 per 1,000. Of these, 18 were finally invalided as compared with 8 in 1935.

59. *Psychoneurosis.*—During 1936, 37 cases, giving an incidence of 1·0 per 1,000 were recorded, compared with 38 cases and an incidence of 1·5 per 1,000 in 1935. Ten cases were invalided from the service in 1936 as compared with 9 in 1935.

60. *Diseases of the heart.*—There were 41 cases of disease of the heart representing an incidence of 1·2 per 1,000, compared with 23 cases, and an incidence of 0·9 per 1,000 in 1935. Of the 41 cases, 28 were " disordered action," 10 were valvular disease, and 3 were diseases of the endocardium and myocardium. There were 2 deaths, and 10 cases were invalided from the service.

61. *Injury.*—The incidence of injury in 1936, at 52·5 per 1,000, compares favourably with the figure 62·5 for 1935. There were 63 deaths and 13 final invalids as compared with 54 deaths and 10 final invalids in 1935.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen—										
Under 18 ..	3,486	32	325	—	13	32	392	794	52	846
18 and 19 ..	5,982	26	173	3	12	29	227	470	51	521
20 and 21 ..	5,607	22	132	5	14	25	197	395	64	459
22 and 23 ..	4,031	18	104	8	13	22	163	328	60	388
24 and 25 ..	2,901	17	83	6	11	26	128	271	56	327
26 and 27 ..	2,750	18	71	8	8	29	103	237	53	290
28 and 29 ..	2,443	15	47	8	7	21	92	190	46	236
30 to 34 ..	2,813	16	46	6	5	24	89	186	27	213
35 to 39 ..	1,761	13	40	5	14	32	74	178	20	198
40 and over ..	1,002	9	29	3	14	41	93	189	26	215
Airmen, all ages	32,776	21	125	5	11	27	178	367	50	417
Officers and cadets, all ages	3,047	42	61	5	15	30	118	271	77	348
All ranks at Home, 1936..	35,823	22	120	5	12	27	173	359	53	412
All ranks at Home, 1935..	*25,242*	*12*	*106*	*6*	*10*	*26*	*120*	*280*	*63*	*343*
All ranks at Home, 1934..	*21,424*	*13*	*72*	*7*	*8*	*34*	*126*	*260*	*76*	*336*
All ranks at Home, 1933..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*
All ranks at Home, 1932..	*23,053*	*32*	*61*	*7*	*11*	*40*	*123*	*274*	*81*	*355*

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TABLE XIV.—SICKNESS AT PRINCIPAL STATIONS AT HOME.

Station.	Average strength.	Case incidence per 1,000 of strength.								
		Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Calshot	561	2	59	5	7	46	145	264	80	344
Cranwell ..	3,443	10	241	3	13	37	252	556	49	605
Digby	510	8	35	2	10	35	96	186	45	231
Eastchurch ..	926	87	202	3	15	40	201	548	78	626
Gosport ..	767	16	82	1	4	33	122	258	61	319
Grantham ..	569	9	40	18	14	21	95	197	49	246
Halton	3,701	16	201	1	11	21	312	562	42	604
Henlow	3,545	7	108	4	12	21	170	322	48	370
Manston ..	2,401	29	99	5	15	25	174	347	35	382
Netheravon ..	517	29	56	12	6	25	112	240	73	313
Old Sarum ..	510	29	29	4	18	29	75	184	65	249
Uxbridge ..	3,205	57	344	5	22	35	372	835	63	898
Fleet Air Arm at Home ..	627	5	25	5	3	16	61	115	41	156
All other stations	14,541	20	42	7	9	25	94	197	55	252
Total: 1936..	35,823	22	120	5	12	27	173	359	53	412
Total: 1935..	*25,242*	*12*	*106*	*6*	*10*	*26*	*120*	*280*	*63*	*343*
Total: 1934..	*21,424*	*13*	*72*	*7*	*8*	*34*	*126*	*260*	*76*	*336*
Total: 1933..	*21,874*	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*
Total: 1932..	*23,053*	*32*	*61*	*7*	*11*	*40*	*123*	*274*	*81*	*355*

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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1936

General

62. The incidence of total sickness abroad in 1936 is analysed in Table I, page viii, by geographical areas, and at the same time the average incidences for the two preceding periods are given. The term Mediterranean Littoral, for the purposes of this report, comprises Malta, Egypt (including Kenya), the Sudan, Transjordan and Palestine, Aden drafts en route to and from the U.K., and personnel on Special Duties. Figures for the Far East, previously included as a footnote, are now shown in the main table.

63. (i) The average strength abroad during 1936 was 12,011, and the total number of cases of sickness 10,482—an incidence of 873 per 1,000. For 1935 the incidence was 936, with average incidences of 959 and 1,566 for the two preceding periods. Excluding cases of not more than 48 hours duration, the incidence was 525 per 1,000 in 1936, compared with 516 in 1935 and average incidences of 554 and 730 for the two preceding periods.

(ii) The number of sick daily, including cases of not more than 48 hours duration, fell to 27·0 per 1,000 from 28·2 in 1935, being also lower than the two preceding periods at 27·9 and 39·2. Omitting cases of not more than 48 hours duration the number of sick daily was 25·4. This figure is slightly lower than in 1935 (26·6 per 1,000), and also lower than for the two preceding periods at 26·0 and 35·9 per 1,000.

64. The average number of days sickness per head for all cases was 9·9 per 1,000 in 1936, which is lower than the figures for 1935, 1934, and the two preceding periods at 10·3, 10·1, 10·2 and 14·3 per 1,000. If cases of not more than 48 hours duration are omitted the average number of days' sickness per head was 9·3 per 1,000, compared with 9·7 in 1935 and averages of 9·5 and 13·1 for the two preceding periods.

65. For all cases, the average duration in days at 11 shows no change from 1935, while the two preceding periods average 11 and 9 days. Excluding cases of not more than 48 hours duration, the average duration of each case at 18 days compares with 19 days in 1935, and averages of 17 and 18 days for the two preceding periods.

66. The comparative sickness incidences for the total force abroad during 1936, show that compared with 1935 there were increases in the incidences for upper air passage infections from 62 to 73 per 1,000, influenza from 13 to 17 per 1,000, and respiratory diseases from 12 to 15 per 1,000. Malaria, venereal disease, and

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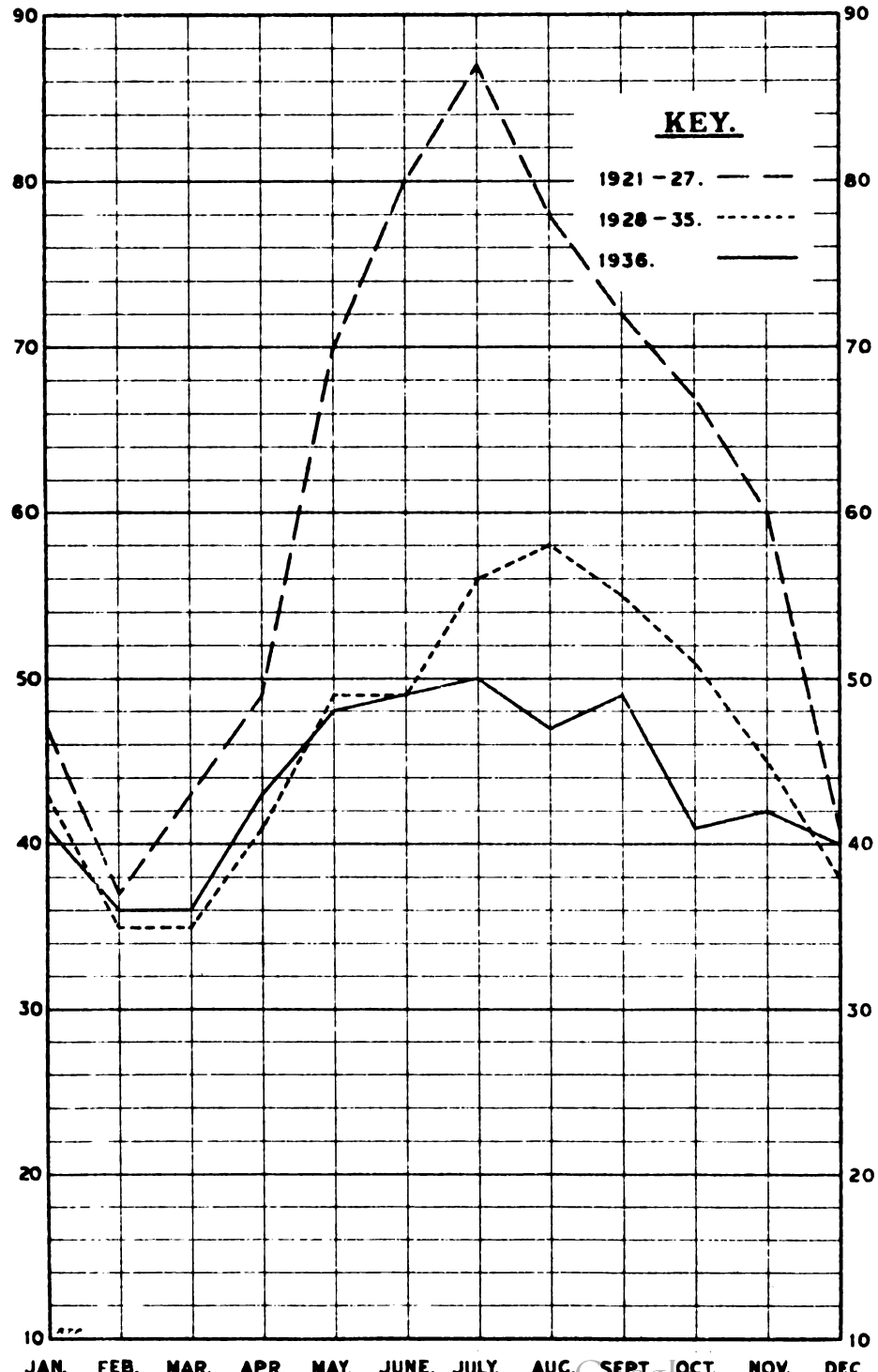
CHART 2. SICKNESS ABROAD, — 1936.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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dysentery at 26, 19 and 7 per 1,000 remain unchanged, while phlebotomus fever and digestive diseases have decreased from 26 to 21 per 1,000 and from 47 to 45 per 1,000.

67. The incidence for deaths was 6·4 per 1,000 compared with 9·4 for 1935 and average incidences of 5·2 and 7·2 per 1,000 for the two preceding periods. The invaliding rate to the United Kingdom from abroad was 18·6 per 1,000 compared with 19·9 in 1935 and averages of 15·6 and 22·8 for the two preceding periods. The invaliding incidence for personnel finally invalided for disabilities which arose while serving abroad, was 3·0 per 1,000 in 1936, compared with 3·6 in 1935 and average incidences of 3·7 and 5·8 for the two preceding periods.

68. In 1936 the sickness incidences for geographical areas show that the incidence of all disabilities is highest for the Far East at 926 per 1,000 compared with an incidence of 873 per 1,000 for all areas abroad. If cases of not more than 48 hours duration are omitted, the Far East still shows the highest incidence at 605 per 1,000, the figure for all areas abroad being 525 per 1,000. With regard to final invalids, average duration of cases in days, number of sick daily, and number of days' sickness per head, the Far East again heads the list. For invalidings to the United Kingdom, the Fleet Air Arm has the highest figure at 26·3 per 1,000. The case incidences for the Fleet Air Arm, Mediterranean Littoral, and India show a decrease, while Iraq shows a slight increase.

69. Table XV, page 55, analyses for officers, and by age groups for airmen, certain diseases which are the principal cause of medical non-effectiveness abroad. It also serves as a means of analysing in detail the incidence of disease abroad in the age groups shown in Table V, page 24. The incidences of the age groups 18–19, and 40 and over, have not been calculated, as the numbers of these groups serving abroad are so small that the figures would be of little value.

70. (i) The incidence for influenza in all ranks at 17 per 1,000 shows an increase of 4 per 1,000 over 1935. The officer group, as in 1935, has the highest individual incidence at 27, an increase of 5 per 1,000, while of the airmen, the 22–23, and 26–27 age groups at 17 per 1,000 give the highest figures. Dysentery at 7 per 1,000 and Malaria at 26 per 1,000 for all ranks show no change from 1935, while phlebotomus fever at 21 per 1,000 is slightly less. In 1936 upper air passage infections increased from 62 to 73 per 1,000, the highest incidence falling in the 26–27 age group with 86 per 1,000 compared with 73 per 1,000 for all ranks. There was an increase in the venereal disease incidence from 19 per 1,000 in 1935 to 21 per 1,000 in 1936. Apart from slight rises or falls in the various age groups the only noteworthy difference in the incidence of venereal diseases is in the 28–29 age group where the incidence has fallen from 25 per 1,000 in 1935 to 12 per 1,000 in 1936.

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(ii) Of the groups of disabilities analysed in Table XV, injuries show the highest incidence at 77 per 1,000, followed by upper air passage infections with 73 per 1,000. Total disabilities case incidence is highest in the airmen age group 22–23 and lowest in the age group 35–39.

71. Chart 2, facing page 50, shows the monthly incidence of sickness abroad compared with the two preceding periods. The highest incidences of sickness in 1936 were reached in the months of May, June, July, August and September with the peak in July. In the period 1928–35 the peak is reached in August, and in the period 1921–27, in July.

Notes on diseases

72. *Dysentery, malaria and phlebotomus fever.*—(i) Table XVI, page 56, analyses dysentery, malaria and phlebotomus fever at the principal stations abroad, and shows the percentage of all diseases attributable to each, and the incidence of the three diseases collectively, compared with that of all other diseases. Table XVII, page 57, continues the analysis to show the actual number of cases at each station, and also differentiates between primary and relapse cases of malaria and the various types of dysentery. Table XVIII, page 58, gives the monthly figures for certain areas abroad, and the incidences per 1,000 for 1936, 1935 and the two preceding periods.

(ii) (*a*) The incidence of dysentery remained, as in 1935, at 7 per 1,000.

(*b*) Malaria with an incidence of 26·4 per 1,000 shows little change from 1935. India shows a decrease from 36·7 to 28·1 per 1,000, while Iraq and the Mediterranean Littoral show slight increases.

(*c*) The incidence of phlebotomus fever decreased in 1936 from 26·0 to 21·0 per 1,000. Iraq and the Mediterranean Littoral at 52·2 and 12·0 per 1,000 show decreases; the figure for India—33·0 per 1,000—has increased from the previous year by 3·1 per 1,000.

(iii) (*a*) At individual stations abroad the numbers of cases of dysentery were greatest at Hinaidi with 19 and Karachi with 16. There were no cases of dysentery at Aden.

(*b*) The stations showing the highest incidences of malaria were, in the Mediterranean Littoral—Abu Sueir and Aboukir with 36 and 23 primary cases, in India—Karachi, Kohat, and Peshawar with 9, 8 and 5 primary cases, and in Iraq—Hinaidi with 53 primary cases.

(*c*) The figures for phlebotomus fever are highest for Hinaidi, as in 1935; there is, however, a fall from 105 cases to 71 at this station. Risalpur also shows a fall from 14 cases to 3. Of the remaining stations Khartoum, Ramleh, Kohat, and Mosul show slight increases.

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(iv) The monthly case incidence of these diseases in 1936 shows that in the Mediterranean Littoral malaria reached its highest incidence in September; in India in October, and in Iraq in November. The peak of the incidence of phlebotomus fever in the Mediterranean Littoral was reached in July, in Iraq during September, and in India in May.

73. *Diseases of the enteric group.*—In 1936 there were 4 cases giving an incidence of 0·3 per 1,000, compared with 0·8 in 1935. There were no deaths, and no cases were invalided to the United Kingdom. These cases consisted of :—

(i) *Typhoid Fever.*—One case ; an officer stationed at Aboukir in Egypt. On recovery he returned to duty in the command.

(ii) *Paratyphoid fever "B."*—One case ; an airman stationed at Hinaidi in Iraq, who returned to duty in the command.

(iii) *Paratyphoid fever "A."*—Two cases ; one, an airman, developed the disease while returning to the United Kingdom by troopship, having been stationed previously at Aboukir ; the second, also an airman, was stationed at Kohat in India. Both these airmen returned to duty.

74. *Acute enteritis and acute gastro-enteritis.*—The incidence for these diseases was 36·8 per 1,000 compared with 33·7 for 1935. There were no deaths or invalidings.

75. *Effects of heat.*—There were 19 cases as compared with 15 in 1935, 6 occurring in Iraq, 5 in Egypt, 4 in Aden, 2 in Palestine and 2 in India. Of these cases 2 were of heat hyperpyrexia, 1 occurring in Egypt and 1 in India. There were no deaths, and with the exception of 1 case invalided to the United Kingdom from Iraq, all returned to duty.

76. *Influenza.*—The incidence shows a slight rise from 12·8 per 1,000 in 1935 to 16·9 per 1,000 in 1936.

77. *Upper air passage infections.*—The incidence of acute upper air passage infections in 1936 was higher at 73·5 compared with 62·4 in 1935. This group of diseases includes acute tonsillitis.

78. *Psychoneurosis.*—There were 44 cases of psychoneurosis in 1936 compared with 42 in 1935, the incidence per 1,000 being 3·7, a slight decrease from 1935. The number of cases invalided to the United Kingdom was 28, and 4 were invalided from the service, compared with 20 and 3 respectively in 1935.

79. *Otitis media.*—(i) There were 28 acute cases, an incidence of 2·3 per 1,000 compared with 20 cases and an incidence of 2·0 per 1,000. No cases were invalided to the United Kingdom.

(ii) Fifteen chronic cases occurred, an incidence of 1·2 per 1,000 as compared with 14 cases and an incidence of 1·4 in 1935. Four cases were invalided to the United Kingdom and 2 out of the service.

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80. *Acute rheumatism.*—During 1936, 9 cases occurred, of which 3 were invalided to the United Kingdom, and 1 invalided from the service. The incidence, 0·7 per 1,000, compares with 0·5 per 1,000 for 1935. There were no deaths.

81. *Diseases of the heart.*—A total of 17 cases occurred: disordered action, 13; valvular disease, 1; disease of the myocardium, 3. The incidence was 1·4 per 1,000 compared with 22 cases and an incidence of 2·2 per 1,000 in 1935.

82. *Injury.*—The incidence of injury in 1936 was 77·3 per 1,000—a fall of 11·4 per 1,000 from 1935, when the figures were abnormal as a result of the Quetta earthquake. There were 55 deaths, 27 invalidings to the United Kingdom, with 3 final invalids, compared with 74 deaths, 44 invalidings to the United Kingdom and 2 final invalids in 1935.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS: 1936.

Age last birthday.	Average strength.	Case incidence per 1,000 of strength.											
		Influenza.	Dysentery.	Malaria.	Phlebotomus fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—													
18 and 19	145	*	*	*	*	*	*	*	*	*	*	*	*
20 and 21	1,321	14	12	25	25	79	23	14	38	277	507	80	587
22 and 23	2,252	17	8	32	27	79	30	12	46	257	508	90	598
24 and 25	2,650	14	7	29	18	69	26	12	44	204	423	87	510
26 and 27	1,457	17	6	28	27	86	23	16	43	210	456	74	530
28 and 29	643	16	8	20	22	65	12	26	50	258	477	104	581
30 to 34	1,060	14	3	16	15	71	20	12	42	192	385	53	438
35 to 39	812	16	1	21	12	71	14	26	41	172	374	42	416
40 and over	443	*	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages ..	10,783	16	7	26	21	74	23	15	44	224	450	77	527
Officers, all ages ..	1,228	27	9	28	24	70	5	11	54	199	427	77	504
All ranks, abroad 1936	12,011	17	7	26	21	73	21	15	45	222	447	77	524
,, ,, 1935	*9,856*	*13*	*7*	*26*	*26*	*62*	*19*	*12*	*47*	*215*	*427*	*89*	*516*
,, ,, 1934	*9,200*	*13*	*17*	*36*	*31*	*85*	*18*	*14*	*44*	*205*	*463*	*81*	*544*
,, ,, 1933	*8,994*	*20*	*7*	*49*	*40*	*71*	*22*	*18*	*46*	*196*	*469*	*83*	*552*
,, ,, 1932	*8,824*	*13*	*9*	*32*	*47*	*80*	*22*	*16*	*40*	*176*	*435*	*79*	*514*

* Not calculated in view of small average strength.

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TABLE XVI.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD, 1936.

	Average strength	Number of cases.						Percentage of total number of cases of disease.					Case incidence per 1,000 of strength.		
		Dysentery.	Malaria.	Phlebotomus fever.	Total: dysentery, malaria and phlebotomus fever.	All other diseases.	Total all diseases.	Dysentery.	Malaria.	Phlebotomus fever.	Total: dysentery, malaria and phlebotomus fever.	All other diseases.	Dysentery, malaria and phlebotomus fever.	All other diseases.	All diseases.
Aden.								%	%	%	%	%			
Aden and Khormaksar	678	—	6	—	6	424	430	—	1	—	1	99	9	625	634
Egypt.															
Aboukir ..	938	9	29	5	43	345	388	2	8	1	11	89	46	368	414
Abu Sueir ..	442	1	45	4	50	155	205	—	22	2	24	76	113	351	464
Heliopolis ..	604	—	11	7	18	258	276	—	4	3	7	93	30	427	457
Far East.															
Singapore ..	757	1	2	—	3	346	349	—	1	—	1	99	4	457	461
India.															
Karachi ..	627	16	11	4	31	279	310	5	4	1	10	90	49	445	494
Iraq.															
Hinaidi ..	1,402	19	59	71	149	614	763	3	8	9	20	80	106	438	544
Mediterranean.															
Kalafrana and Hal Far	670	1	1	8	10	194	204	*	*	4	5	95	15	289	304

* Less than 0·5 per cent.

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TABLE XVII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: STATIONS ABROAD, 1936.

Station.	Average strength.	No. of cases.										
		Dysentery.								Malaria.		Phlebotomus fever.
		Clinical		Bacillary		Protozoal		All types				
		Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	Primary.	All.	
*Mediterranean Littoral.**												
Aden and Khormaksar	678	—	—	—	—	—	—	—	—	3	6	—
Aboukir ..	938	—	—	9	9	—	—	9	9	23	29	5
Abu Sueir ..	442	—	—	1	1	—	—	1	1	36	45	4
Amman ..	236	—	—	—	—	—	—	—	—	1	3	8
Kalafrana and Hal Far ..	670	—	—	1	1	—	—	1	1	—	1	8
Heliopolis ..	604	—	—	—	—	—	—	—	—	8	11	7
Helwan ..	189	—	—	—	—	—	—	—	—	2	5	3
Ismailia ..	344	—	—	4	4	1	1	5	5	15	19	2
Khartoum ..	246	—	—	4	4	—	—	4	4	14	15	11
Mersa-Matruh	279	—	—	3	3	—	—	3	3	2	2	—
Ramleh ..	348	—	—	—	—	—	—	—	—	3	4	17
Sarafand ..	186	—	—	—	—	—	—	—	—	3	5	4
Various small stations en route ..	1,523	2	2	6	7	—	—	8	9	19	24	11
Total ..	6,683	2	2	28	29	1	1	31	32	129	169	80
India.												
Ambala ..	146	1	1	4	4	—	—	5	5	4	4	2
Chaklala ..	166	—	—	—	—	—	—	—	—	3	3	2
Karachi ..	627	12	12	2	3	1	1	15	16	9	11	4
Kohat ..	213	—	—	2	2	—	—	2	2	8	10	26
Lahore ..	153	1	1	2	2	—	—	3	3	2	2	6
Lower Topa..	175	—	—	—	—	—	—	—	—	3	5	2
Peshawar ..	172	—	—	—	—	—	—	—	—	5	9	20
Risalpur ..	230	—	—	—	—	—	—	—	—	2	4	3
Various small stations ..	146	—	—	1	1	—	—	1	1	7	9	2
Total ..	2,028	14	14	11	12	1	1	26	27	43	57	67
Iraq.												
Basrah ..	83	—	—	1	1	1	1	2	2	9	11	9
Hinaidi ..	1,402	—	—	17	18	1	1	18	19	53	59	71
Mosul ..	183	—	—	—	—	—	—	—	—	7	7	15
Shaibah ..	223	1	1	—	—	2	2	3	3	1	3	7
Various small stations ..	63	—	—	—	—	—	—	—	—	1	1	—
Total ..	1,954	1	1	18	19	4	4	23	24	71	81	102
*Far East.**	813	—	—	1	1	—	—	1	1	7	10	—
Fleet Air Arm.												
All units ..	533	—	—	—	—	1	1	1	1	—	—	3
TOTAL: All stations abroad	12,011	17	17	58	61	7	7	82	85	250	317	252

* Excluding Fleet Air Arm.

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TABLE XVIII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: CERTAIN COMMANDS ABROAD—

1936.	Dysentery.						Malaria.						Phlebotomus fever.		
	Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.		India.		Iraq.		Mediterranean Littoral.	India.	Iraq.
	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.			
January	1	1	—	1	—	—	1	2	—	1	2	3	—	1	—
February	5	6	—	—	—	—	3	3	—	1	2	2	2	—	—
March	1	1	2	2	—	—	5	7	2	6	1	1	—	1	4
April	5	5	3	3	6	6	3	6	2	3	1	2	8	3	4
May	4	4	1	1	2	2	5	8	1	3	—	3	14	15	11
June	6	6	—	—	9	9	5	9	—	2	8	8	5	4	9
July	2	2	3	3	1	1	22	34	2	2	9	10	20	12	15
August	6	6	8	8	—	—	19	25	10	11	3	3	15	14	17
September ..	—	—	3	3	1	1	37	41	5	5	4	4	11	8	22
October	1	1	3	3	3	3	15	15	12	12	10	11	3	7	18
November	—	—	3	3	—	1	8	12	7	8	16	18	2	2	2
December	—	—	—	—	1	1	6	7	2	3	15	16	—	—	—
1936 Total ..	31	32	26	27	23	24	129	169	43	57	71	81	80	67	102
Case incidence per 1,000 of strength.															
1936	4·6	4·8	12·8	13·3	11·8	12·3	19·3	25·3	21·2	28·1	36·3	41·5	12·0	33·0	52·2
1935	4·2	4·2	11·3	11·3	9·4	9·9	*15·6*	*21·2*	*26·9*	*36·7*	*24·3*	*34·7*	*13·5*	*29·9*	*63·4*
1928–35	*4·0*	*4·2*	*14·5*	*15·5*	*13·9*	*14·4*	*18·3*	*28·5*	*58·4*	*106·3*	*24·2*	*34·4*	*25·3*	*44·9*	*91·8*
1921–27	*8·8*	*11·1*	*11·7*	*18·3*	*29·3*	*35·3*	*16·1*	*34·9*	*118·4*	*260·0*	*55·9*	*123·6*	*53·5*	*61·4*	*227·7*

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CHAPTER IV.—SPECIAL DEPARTMENTS

Central Medical Establishment

83. (i) *General.*—During the year, 7,089 routine medical examinations were carried out at the Central Medical Establishment. This figure is an increase over the four preceding years, when the examinations numbered 6,066 for 1935, 3,735 for 1934, 3,301 for 1933 and 3,334 for 1932. Owing to this increase of work, two Boards were in session throughout the year. Details of the examinations are shown in table XIX, page 89.

(ii) *Teaching.*—Courses of instruction in aviation medicine were given to 39 newly joined R.A.F. medical officers, and to 16 Naval and Colonial Service medical officers who attended for a period of a fortnight or more. In addition, a medical officer of the Iraqi Air Force was given instruction for three weeks.

(iii) *Examinations at the Central Medical Establishment.*—During the year, 3,118 examinations were carried out on 2,600 candidates for flying duties in the Royal Air Force. Of these, 71 per cent. were finally accepted as fit for full flying duties and 23 per cent. rejected on medical grounds, as compared with 61 per cent. and 31 per cent., respectively, in 1935 (for details *see* table XX, page 89). Table XXII, page 91, gives the causes of rejection of all service candidates—flying and otherwise—medically examined at the Central Medical Establishment during the year under review. Of those rejected the causes were : defective vision in 38 per cent., medical and surgical disabilities in 42 per cent., defective physical efficiency in 6 per cent., and ear, nose and throat conditions in 4 per cent. Rejections in 1935, 1934, 1933 and 1932 for defective vision alone were 32, 44, 35 and 40 per cent. respectively of all rejects.

(iv) Various members of the Central Medical Establishment have taken part in the formulation, under the International Commission of Air Navigation, of standards of physical fitness for all classes of aeronaut.

(v) *Researches.*—(*a*) An investigation into the relationship between the present physical standards for flying personnel and their subsequent flying proficiency was begun, to determine whether the present standards of physical efficiency can safely be reduced. A number of candidates below the present standard were accepted and placed under observation for improvement or deterioration in physical efficiency and ability to carry out full flying duties.

(*b*) An occupational selection of aircraft apprentices was made at Halton regarding the September, 1932, and January, 1933, entries who had completed the 3-years' course. The results showed the

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association which existed between the forecasts based upon examination of the apprentices soon after joining and the final results of their passing-out classification. The results of these investigations were published in the *Lancet* of June 20th, 1936.

Medicine

84. (i) *General.*—There was a further increase in the number of consultant examinations at the Central Medical Establishment and at the R.A.F. hospitals at Cranwell, Halton, and Uxbridge. In addition, the Consultant in Medicine did the duty of President No. 2 Central Medical Board, dealing with entrants for short service and reserve. Two series of lectures on aviation medicine were given to newly joined medical officers, and several short courses of instruction to Colonial medical officers.

(ii) *Research.*—An investigation was initiated as to the significance of low blood pressure amongst pilots.

Neurology

85. *General.*—Routine examinations of patients for diagnosis and treatment were carried out at the Central Medical Establishment, and at the R.A.F. hospitals. The total number of neurological cases was 502. The largest number related to effects of head injury and concussion (28 per cent.), psychoneurosis (20 per cent.), and mental conditions (14 per cent.). In the last group cases diagnosed as " psychological inferiority " were included and the large percentage was considered to result from the enlistment under the expansion scheme of men unable, because of some constitutional defect, to adapt themselves to service life. Epilepsy and allied disturbances of consciousness accounted for 9 per cent. of the cases ; this total consisted largely of patients who developed fits shortly after entry, many of whom failed to disclose the existence of such conditions before enlistment. Organic disease of the central nervous system was present in 12 per cent., and 16 per cent. suffered from one or other of the following conditions : vertigo, headache, enuresis, air-sickness, migraine and vaso-vagal attacks.

Ophthalmology

86. (i) *General.*—Outpatient work at the hospitals and routine and special eye examinations at the Central Medical Establishment, have further increased with the expansion of the service. The supply of spectacles increased, due partly to the lowered standard of vision for recruits. Several cases of interest were shown at the Royal Society of Medicine. There was a noticeable increase in cases of retinal detachment following blows received at organised games.

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(ii) *Research.*—A study of the light sense of pilots in relation to night-flying ability was carried out and an investigation begun regarding para-central vision. Visual standards of previous acceptance were reviewed and training reports of "borderline" ocular muscle balance cases analysed, with the result that a larger entry into the flying branch of the service was safely effected. Two pieces of apparatus, one a form of illusion test, the other a test of the perception of depth at different angles in the visual field with a variable perimetric control, were designed.

Oto-Rhino-Laryngology

87. (i) *General.*—(*a*) *Central Medical Establishment.*—A large number of routine clinical examinations were made during the year, embracing practically all candidates appearing before the Central Medical Board. In addition, the consultant reported on a large number of cases sent from various units for his special consideration. Courses of instruction were given to newly joined R.A.F. medical officers and officers of the Colonial and other medical services.

(*b*) *Hospitals.*—The number of operations performed and the anæsthetics administered are shown in para. 102 (vi). The X-ray examinations are included in the table. In all, 488 operations were performed. Tonsillectomy and proof puncture were the operations most commonly performed.

(ii) The number of cases of upper air passage infections at home increased from 2,686 in 1935 to 4,293 in 1936, the incidences per 1,000 being 106·4 and 119·8. As a result, the amount of ear nose and throat work was increased though the number of mastoid operations at Halton fell from 20 in 1935 to 17 in 1936.

Physiology

88. The physiological problems affecting the airman in general, and the service pilot and observer in particular, have continued to be studied. Amongst a variety of questions considered, the following are of general interest :—

The avoidance of fatigue, in the interests of efficiency, with particular attention to posture, noise and the purity of inspired air.

The risks to flying personnel of breathing air contaminated, even to a very small extent, with exhaust or other harmful gases, and the protection of workers in special testing-chambers from this risk.

The defence of the Royal Air Force against war gas ; instruction of medical officers and airmen in the principles of self-protection and the care of the gassed, design of buildings, appliances and clothing.

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The design of flying headgear, including the masks required for breathing oxygen at great heights. The use of other chemical substances in addition to or in place of oxygen for this purpose.

The physiological problems of very high flying, of other work at ultra-low pressures and in great cold, and of the high speed of modern service aircraft.

The design of special instruments for the examination of flying candidates and personnel, with particular attention to the pre-determination of the ability to learn to become a service pilot.

The mechanical forces encountered by the human body in flight, its reaction thereto and protection therefrom.

Hygiene

89. (i) *General.*—During the year under review, owing to the close co-operation of the various departments, Personnel, Operations, Equipment, Works and Medical, there were further advances in the general hygienic and sanitary conditions at home and abroad. These improvements are discussed in detail below.

(*a*) The new type barrack blocks consist of 4 or 6 barrack rooms with well appointed lavatory annexes having slipper, foot and shower baths and an adequate supply of hot water. A drying room for damp clothing and store rooms for kit bags and suitcases are incorporated in the building. The barrack rooms allow for 60 square feet floor space per man and 3½ feet between each pair of beds. The floors are of Jarrah plank flooring and the walls coloured light buff, with white freizes and ceilings giving an effect of cheerfulness and comfort. The lighting is provided by 40-watt lamps, with bell shaped opal tinted shades to aid light diffusion, hung between each pair of beds and giving approximately 3-foot candle illumination without glare over each bed area. Such barracks were completed at Halton, while those at Odiham, Hanwell, Hullavington, Cranfield, Stradishall, Marham, Feltwell, Thorney Island, Tern Hill, Waddington, Manby and Church Fenton were nearing completion. The institutes were provided with billiard, recreation, reading and writing rooms, and a large canteen fitted with settees and small tables for four.

(*b*) Dish-washing machines either of the revolving brush or of the turbulent type, thermostatically controlled to ensure hygienic washing, have been installed in annexes to airmen's dining halls in most barracks of permanent construction. Observations are being made on the comparative practical value of these two types of machine, especially as regards hygienic cleaning, speed of output, amount of manual labour and supervision necessary, and durability.

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(*c*) Metal wardrobes, $6\frac{1}{2} \times 1\frac{3}{4} \times 2$ ft., designed to hold the complete kit of an airman, were issued to all new type barracks. These wardrobes are usually arranged in pairs and occupy a space of $3\frac{1}{2}$ ft. between beds, thus helping to ensure adequate bed spacing.

(*d*) Modern insulated cookers were provided in officers' married quarters to conserve labour and to facilitate good cooking.

(*e*) As regards clothing there were many improvements. Puttees and pantaloons for walking out and ceremonial occasions were abolished on account of their retarding action on the circulation and muscular movements of the lower limbs and were replaced by slacks and a short gaiter. Open-necked tunics are now being issued to all ranks to replace the stiff upright collar type previously in use. The latter so constricted the neck, especially when working, that the proper circulation of the blood to and from the head was impeded, the pressure of the collar on the large veins of the neck often being sufficient to raise the intra-cranial pressure to abnormal height (as proved by the Quickenstedt test) thus interfering with the normal activity of the brain, especially at times when the greatest alertness was needed. Light-weight cotton and wool mixture shirts, pyjamas and socks were introduced to overcome the defects of the former woollen type which irritated the skin and could not be properly washed or disinfected without undue shrinkage. Oilskin leggings were issued to aircraft apprentices at Halton to give protection against rain and so to help lessen the incidence of minor respiratory diseases among them. The drivers of motor petrol tankers were supplied with leather gloves as a protection against petrol dermatitis. Topees, lined with aluminium fabric as an additional protection against heat, were issued on an experimental basis to certain units in the Sudan.

(*f*) A pool system to deal with bulk disinfection of geographical groups of stations was introduced as an economy measure, except where more convenient or cheaper arrangements could be made with the local rural district councils. Previously each station had its own high-pressure steam disinfector of 100 cubic ft. capacity, and, in building up the pool system, these existing disinfectors were utilised as centres where practicable, so that few new disinfectors had to be purchased. At certain isolated stations, such as West Freugh, contracts were made with the local health authorities to carry out disinfection at settled rates. For units requiring only a small amount of disinfection to be done, arrangements were made to supply them with a small portable box-type disinfector, costing about £5 each and large enough to deal with small kit. Steam at 2 to

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3 lb. pressure was found to be adequate for use with these portable disinfectors, and suitable connection-piping is being arranged for at existing steam points (e.g. boiler houses) on stations. A small petrol pressure stove was designed for use with the box disinfector when a steam point is not available.

(*g*) A portable, electrolytic, water sterilising unit delivering 250 gallons of purified water per hour was constructed for transportation by aeroplane or motor car. The apparatus consists of a centrifugal pump worked by a ¾ h.p. air-cooled petrol engine, together with tanks for ammonia solution and brine, the latter being electrolised to form chlorine. A small dynamo driven by the engine is fitted with a variable resistance to control the circuit in the electroliser, the exact dose of chloramine being regulated by an ammeter. The chloraminated water is then passed through a sand filter. The whole apparatus packs neatly into two cases, each being a 2-ft. cube and weighing about 150 lb. One case contains the engine and dosing panel, the other the filter and piping. The assembling of the apparatus is only a matter of 10–15 minutes, including the time taken to prepare the brine and ammonia solutions. This apparatus has proved very efficient, producing a clarified and purified water fit for drinking.

(*h*) A flying boat cruise from Malta to West Africa took place in December. As a safeguard against yellow fever in that district, the twelve members of the cruise received protective inoculation prior to departure. The necessary protective yellow fever serum and virus was prepared by Dr. C. M. Findlay, of the Wellcome Bureau of Scientific Research, London, and forwarded to Malta by air. The inoculations gave little or no reaction beyond slight headache. Additional precautions were pressure spraying of aircraft twice daily with " pyrocide 20 " and half an hour prior to departure from any port of call, and the enforced use of mosquito nets by all members of the flight. As no medical officer was carried, each individual was issued with a copy of " Medical notes and first-aid treatment for flights in the tropics and subtropics " (A.P. 1486).

The health of this flight was excellent, there being no case of illness.

(ii) *Investigations.*—(*a*) All cases of jaundice occurring in the Royal Air Force serving in the United Kingdom during 1936 were investigated, special note being made of any history of recent employment in aeroplane doping or of swimming in rat-infested water. The blood sera of all were tested for specific agglutinins of leptospira icterohaemorrhagiae. There were 33 cases of jaundice,

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and in none of these was there any history of recent employment in doping; two were instances of Weil's disease, leptospira icterohaemorrhagiae being isolated from the blood and urine of one, whereas the blood sera of the other agglutinated this leptospira up to a dilution of 1/3000. In each case the infection was traced to swimming in infected water, at Dublin and Henlow respectively. One jaundice was the sequela of intravenous arsenical inoculations. The majority of these jaundice cases appeared to be of the so-called infective catarrhal type.

(*b*) A British officer attached to the Aden Levies contracted Kala-Azar while in the Aden Protectorate; he had not been out of the Protectorate for the previous 18 months. This is of interest as, previously, this disease was not known to occur in Aden. Investigations are now in progress to ascertain the local distribution of this disease.

(iii) *Teaching.*—(*a*) At *Halton*, general instruction in service hygiene and sanitation was given to 39 newly joined medical officers. Under a new policy introduced during the year, all aircrafthands under training as medical orderlies (141 in all) received a full course of instruction, practical and theoretical, in hygiene and sanitation. Short courses of instruction in hygiene and field sanitation were given to 350 aircraft apprentices prior to passing out from Halton, and 101 aircrafthands undergoing training as cooks were given appropriate instruction in hygiene, especially in relation to food supplies and cookhouses. In March the members of the Public Health Class of the London School of Hygiene and Tropical Medicine (London University) paid their annual visit for instruction in service hygiene.

(*b*) At *Cranwell*, 300 aircraft apprentices were given a course of hygiene and field sanitation.

Stations in the United Kingdom

90. *General.*—The various commands in the Royal Air Force in the United Kingdom were reorganised during the year, thus, Air Defence of Great Britain was enlarged and divided into two commands, namely, Bomber Command and Fighter Command; Coastal Area was enlarged and changed its name to Coastal Command; while Inland Area absorbed Halton and Cranwell Commands, together with certain other units previously in Air Defence of Great Britain, and became known as Training Command. On account of this reorganisation of the Home Commands, it has not been found practicable to give the usual comparable figures as regards the general health of the individual commands.

The new type permanent buildings provide accommodation of a high standard of comfort and hygiene. The replacement of dilapidated war-time buildings by new construction has been interrupted by the expansion scheme, but these old buildings are being reconditioned or replaced as necessary. Personnel at most

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of the new stations were accommodated in wooden huts erected as a temporary measure pending the provision of permanent construction.

In spite of reduction in accommodation amenities following the expansion, and notwithstanding the lowered physical standard of recruits, no serious outbreak of infectious diseases occurred. There was, however, a high incidence of minor infections and respiratory diseases, considered to be due in part to reduction of floorspace in barracks from 60 to 45 square feet per man.

At all new R.A.F. stations the proposed drinking water supply was tested both chemically and bacteriologically prior to acceptance of the supply, whether from a local authority or from a well in the station itself. At certain of these stations chlorination of the supply was found to be necessary, e.g., at Leconfield, Wyton and Upwood—the last two stations being supplied by a well at Houghton.

As regard sewage disposal, special care was exercised in choosing sites for sewage works in order to prevent the effluent from contaminating drinking water supplies or becoming a public nuisance. Where it was proposed to discharge R.A.F. sewage effluent into streams, samples of water were analysed at various periods of the year to establish the chemical and bacteriological condition of the stream prior to the discharge into it of sewage effluent.

In order efficiently to control all swimming baths a Works official was made responsible for the purity of the water and the application of chlorination tests, and for the daily log-book recording the chlorine and pH content of the water, number of bathers, number of hours plant worked daily, amount and nature of the chemicals added and the average temperature of the bath water.

91. **Bomber Command.**—(i) *Water supplies.*—Hitherto derived chiefly from local Water Company's mains, water supplies were taken, in the case of many new stations, from bore wells sunk under Air Ministry arrangements, where linkage with local mains was not convenient. Apart from the temporary and unavoidable contamination associated with the installation of new systems, there was no trouble with any water supplies in the Command. New stations were advised to have all drinking water boiled pending a satisfactory bacteriological analysis.

(ii) *Conservancy.*—All sewage disposal was satisfactory. The majority of stations in the Command were served by the standard type of R.A.F. sewage plant. At Usworth, where the septic tank plant proved inadequate to deal with the increased personnel, the standard type of sewage works was installed with complete success as regards sewage effluent.

Latrines generally were of the water-borne type. In cases where sheds and workshops were too far distant from main drainage, Elsan closets of the " underground tank " type were provided ; these overflowed into a soakage pit.

Scavenging was by contract.

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(iii) *Food.*—Only small quantities of food had to be condemned. There were no cases of food poisoning.

(iv) *Buildings.*—During the year the following eleven stations were constructed in temporary hutting, and occupied :—

Dishforth.	Driffield.	Finningley.
Hemswell.	Hooton Park.	Leconfield.
Lympne.	Scampton.	Speke.
Wyton.	Yeadon.	

At the permanent stations minor constructions were carried out, namely, extension of the officers' mess and N.A.A.F.I. at Bicester, and the erection of 16 married quarters at Mildenhall—12 for airmen, 1 for warrant officers, and 3 for officers.

92. **Coastal Command.**—(i) *Water supplies* at all stations were satisfactory. At Lee-on-the-Solent a 100,000 gallon concrete reservoir to serve as a storage for fire-fighting, and an emergency drinking-water supply was completed. This reservoir which is in three compartments, one of which can be cleaned while the remaining two are in operation, is to be aerated weekly in future to ensure a supply of sweet water.

(ii) *Conservancy* at all stations was satisfactory. At Lee-on-the Solent a new water-borne drainage scheme, discharging into the Corporation sewer, was completed. At Calshot the discharge pipe on the foreshore was lengthened by 30 feet and fitted with more efficient valves, as there had been fouling of the foreshore.

At Southampton, where water-borne latrines are not available at the hangars, pail latrines are in use.

(iii) *Food.*—No cases of illness or disease traceable to food or drink occurred.

(iv) *Buildings.*—Improvements have been made in accommodation at the following stations :—

Donibristle.—One warrant officer's and 15 airmen's married quarters were completed.

Bircham Newton.—The officers' mess, accommodating 40 in mess and 33 in quarters, was completed and is to be further enlarged to take 55 in mess and 48 in quarters.

Lee-on-the-Solent.—Three " E " type barrack blocks, accommodating 4 N.C.Os. and 80 other ranks each, a new station sick quarters of the two-squadron type, and Institute to accommodate 326–350 men, 50–60 corporals and 30 civilians, were completed.

Pembroke Dock.—One new " A " type barrack block accommodating 4 N.C.Os. and 40 other ranks was completed.

93. **Fighter Command** (i) *Water supplies.*—These are chiefly derived from local Water Company's mains and have been satisfactory both in temporary and permanent stations.

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(ii) *Conservancy.*—Sewage was satisfactorily disposed of at all stations by means of water carriage system to main drainage or R.A.F. sewage works. Effluents of the latter have been analysed and proved to be of a high standard of purity.

Scavenging was done by contract, except at Hornchurch where a service incinerator was used.

As the trade of sanitary assistant has become obsolete, sanitation was mainly carried out by civilian labourers acting under the supervision of the medical officer concerned.

(iii) *Food.*—Only small quantities of food had to be condemned, chiefly preserved meat and bacon. There were no cases of food poisoning, an outbreak of gastro-enteritis (29 cases) at Hendon in November and December, 1936, appeared to be of an influenzal nature. Laboratory examinations of food, fæces and blood from the cases revealed no evidence of food poisoning.

(iv) *Buildings.*—Structural improvements have been made in many stations, old buildings demolished and new ones erected. Of the living quarters the chief construction was as follows :—

Catterick.—Two barrack blocks for airmen, four married quarters for airmen, extensions to airmen's dining-hall and officers' quarters.

Duxford.—A new barrack block, 16 airmen's married quarters, and extension to the sergeants' mess.

Hawkinge.—One barrack block for 34 airmen, two airmen's married quarters, two officers' married quarters, and officers' mess to accommodate 22 living in.

Hornchurch.—A new barrack block to accommodate 52 airmen, single sergeants' quarter block to accommodate 21, 14 airmen's married quarters, extension to airmen's cookhouse and dining-hall, to Institute, to sergeants' mess, and to officers' mess.

Northolt.—Five buildings reconditioned and converted into three barrack rooms for airmen, 1 quarter for sergeant pilots, and for single officers' quarters. Two new married quarters for airmen. Extension to Institute and officers' mess.

North Weald.—A temporary wooden barrack block to accommodate 64 airmen, temporary wooden single officers' quarters to accommodate 5, one permanent officer's quarter (Group V), extension to men's dining-hall and cookhouse, also to Institute, sergeants' mess, and officers' mess.

Tangmere.—One new barrack block, and minor extension to Institute and officers' mess.

94. **Training Command** (i) *Communicable Disease.*—(*a*) The low incidence of scarlet fever and diphtheria was considered to be due to immunization of non-immunes detected by Schick and Dick testing of recruits on entry to the service.

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(*b*) There was an outbreak of nasopharyngitis among the boy entrants at Eastchurch in May, 1936, during which members of the Medical Research Council influenza research team in co-operation with R.A.F. medical officers conducted a research: no influenza virus was isolated, but the causal organism was thought to be a haemolytic streptococcus (type 13).

(*c*) Rubella occurred among young airmen and recruits at Manston, Henlow and Uxbridge, there being 579 cases.

(*d*) An outbreak of true influenza, occurred in December, mainly amongst recruits at Uxbridge and Farnborough. The Medical Research Council's influenza research team isolated the specific virus from certain of these cases.

(ii) *Water Supply.*—The water supplies of stations in the command were satisfactory for drinking purposes, with the exception of Sealand, Eastchurch and Market Drayton.

Satisfactory water was obtained at Sealand after the supply reservoirs were repaired and cleansed and a continued dosage of 1 part per million of chlorine was introduced into the water at the Cilcain filter house.

At Headquarters Training Command and at the A.O.C's. residence in the Market Drayton district drinking water was obtainable only from wells which were heavily contaminated. These waters were therefore chlorinated, and it is hoped to replace this water supply by a good pipe-line supply in the near future.

At Eastchurch where water is obtained from two deep bore wells on the station, the main well was found to contain B. coli in 1 c.c. The suspected source of contamination was a broken drain, since repaired, in the vicinity of the well.

(iii) *Conservancy* was satisfactory throughout the command.

(iv) *Food.*—No food was condemned, but there was an outbreak of mild food poisoning due to B. aertrycke at Eastchurch, there being 36 cases. At Henlow two food storage rooms in the airmen's kitchen were converted into cold storage rooms by the installation of a refrigerating apparatus. The cost of the plant was £105 13*s.* 6*d.*, and was borne by non-public funds. The apparatus is thermostatically controlled, the rooms being kept at 49° F. This installation made a marked difference in the freshness of food.

(v) *Buildings.*—New buildings in permanent construction were completed as follows:—At Halton, the general hospital was enlarged to provide 45 additional beds; airmen's dining hall and Institute at Aldergrove, and two quarters for married officers at Cranwell, were erected; and extensions made to sergeants' mess and men's dining hall at Wittering.

Wooden hutments for temporary accommodation were completed as follows:—

Station.	*Type of construction.*
Aldergrove..	Barracks.
Cardington..	Barracks and technical.

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Station.	*Type of construction.*
Cranwell	Barracks, hospital and technical.
Digby	Technical.
Eastchurch	Barracks and technical.
Farnborough	
Grantham	Technical.
Henlow	Barracks and domestic.
Martlesham	Domestic and technical.
Montrose	
North Coates Fitties	
Peterborough	
Sealand	Technical.
Tern Hill	Domestic and technical.
Thornaby	
Training Command Headquarters	Offices.
Wittering	Barracks and technical.

(vi) *Swimming baths.*—At Eastchurch a chloronome was provided with satisfactory results. At Manston extensive improvements, including lining with tiles, were carried out at the station's expense. Plans for the reconstruction of the Halton and Cranwell baths were drawn up. At Henlow a large pond in a disused quarry near the station, not on Air Ministry property, was hired for swimming in the summer months. One airman who bathed in this pond contracted Weil's disease (*see* para. 89 (ii) (*a*)), whereupon this bathing place was put out of bounds.

Stations Abroad

95. **Aden Command.**—(i) The *average strength* of the command was 791.

(ii) The *general health*, with the exception of an outbreak of dengue, was satisfactory, the disease incidence, excluding cases of not more than 48 hours, being 584 per 1,000.

(iii) *Communicable disease.*—The table shows the incidence per 1,000 of the more important diseases occurring in the command. Incidences of less than 1 per 1,000 have not been indicated :—

Disease.	*Cases.*		*Incidence per* 1,000.	
Dengue	52		66	
Enteritis acute and gastro-enteritis	68		86	
Jaundice	3		4	
Malaria—				
Primary	3		4	
Recurrent	3		4	
Venereal disease—				
Gonorrhoea, acute	10	25	13	32
Soft chancre	15		19	

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There has been a general improvement in health, especially as regards aural infection which has considerably lessened since measures to prevent meatitis in association with bathing were adopted; the chief measures were the introduction of vaselined cotton wool into the external auditory meatus together with swabbing or irrigation with spirits.

An epidemic of dengue, 66·0 per 1,000, occurred in a visiting squadron stationed at the police control point on the Isthmus of Aden, where camel caravans and motor traffic converge. The high incidence amongst these newcomers was probably due to their lack of immunity, as in the rest of the command the incidence was practically the same as in 1935.

Two cases of rubella developed after the disembarkation of a number of contacts. An emergency isolation camp was opened on a remote site and no further cases occurred.

(iv) The *water supply* was good throughout the year.

(v) *Conservancy.*—Increased consumption of water caused the present sump system to become inadequate. Water-borne sewage is urgently required.

(vi) *Food supplies* were satisfactory. Reduction of garrison strength and the consumption of left-over stocks of condensed milk raised the cost of fresh milk. This was thought to encourage the purchase of cheaper milk from unsupervised sources. Consumers were advised to boil all milk as no pasteurisation plant existed.

(vii) *Recreational facilities*, with the exception of Rugby and boxing, which are not suitable sports for this climate, were satisfactory. The erection of a swimming bath at Khormaksar was begun.

(viii) *Building.*—Robat was closed down and Sheikh Othman opened as a new station for the Aden Protectorate Levies.

Two officers' married quarters were reconstructed. Hot water systems in E. & S. Depôt Barracks and airmen's bath house, Khormaksar, and slipper baths in airmen's married quarters and single officers' quarters, were installed.

96. **Far East Command.**—(i) The *average strength*, excluding Fleet Air Arm, was 813.

(ii) The *general health* was satisfactory, the incidence of disease, excluding cases of not more than 48 hours, being 500 per 1,000.

(iii) *Climatology.*—At Kai Tak a typhoon at 130 m.p.h. occurred on 19th–20th August, clearing off mosquitoes and larvae. R.A.F. personnel and property were undamaged.

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(iv) *Communicable disease.*—The table shows the incidence per 1,000 of the more important diseases, omitting incidences of less than 1 per 1,000 :—

Disease.	*No. of cases.*		*Incidence per* 1,000.	
Dengue	7		9	
Dysentery, primary	1		1	
Enteritis acute and gastro-enteritis ..	9		11	
Malaria, primary	7		9	
Venereal disease—				
Gonorrhoea, acute	34	53	42	65
Syphilis—				
Primary	2		2	
Secondary	1		1	
Soft chancre	16		20	

Malaria.—At Seletar 2 primary cases of B.T. occurred, 1 in an officer living out and 1 in an airman living in camp. No malaria-carrying mosquitoes were found within the station. The Sungei Pus swamp was cleared, graded and levelled. On the seaboard, the filling of the new stores area, and on the landward side, some permanent anti-malaria drainage were completed. On both the latter sites much anti-malaria work is still required.

At Kai Tak there were 6 primary and 2 recurrent, as compared with 9 primary and 2 recurrent cases in 1935. The improvement was due to the mosquito-proofing of buildings simultaneously with anti-malaria work done in surrounding civil property.

(v) *Buildings.*—At Seletar additional accommodation for the officers' mess was begun. Alterations to the sergeants' mess and two new three-storey blocks for airmen, including drying and locker rooms and dining and canteen accommodation, were completed.

At Kai Tak the sergeants' mess, barrack blocks and station sick quarters were mosquito-proofed.

(vi) The *water supply* at Seletar, Tengah and Kai Tak was satisfactory. That obtained from surface wells at Sembawang, however, was unsatisfactory, and efforts to secure a municipal supply are being made.

(vii) *Conservancy.*—At Seletar two new Imhoff tanks were installed, producing a satisfactory effluent, and another sprinkler is under construction. Night-soil bucket-latrines were satisfactory, but the digestion tank requires investigation as breeding of larvae took place.

97. **India.**—(i) The *average strength* was 2,028.

(ii) The *general health* was most satisfactory, the disease incidence, exclusive of cases of not more than 48 hours' duration was 388 per 1,000. The average duration of each case in hospital

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was 13 days, including those detained for 48 hours or less, and 20 days if 48 hour cases are excluded. One-third of these patients were treated in sick quarters.

(iii) *Communicable diseases.*—The main communicable diseases in India affecting R.A.F. personnel are malaria, sandfly fever, dysentery, enteric group and venereal diseases. The low incidence of these diseases, remarked on in last year's report, was maintained, and has remained fairly constant during the past 5 years. The incidences for the commoner communicable diseases were :—

Disease.	*No of cases.*	*Incidence per* 1,000.
Dysentery, primary	26	13
Enteritis acute and gastro-enteritis	40	20
Jaundice	13	6
Malaria, primary	43	21
Phlebotomus fever	67	33
Venereal disease : Gonorrhoea acute	12	6

The incidence of malaria was greatest at Peshawar and Miranshah. Phlebotomus fever occurred chiefly at stations on the North-West Frontier. Jaundice of the catarrhal type was evenly distributed throughout the command ; no cases of leptospiral infection occurred.

(iv) *Invaliding* was greater this year than normal. To have retained any of the cases would have involved long periods of non-effectiveness and possible aggravation due to service.

(v) *General conditions.*—(*a*) Hill Depôt, Lower Topa.—Layout and sanitation were satisfactory, and drainage and conservancy are being improved. Airmen's bungalows were rather overcrowded, and authorised lighting scales insufficient to meet the needs of airmen doing study. Food was good, but dining-hall accommodation inadequate. Recreation was promoted, especially trekking, which was popular. Health was satisfactory.

(*b*) Ambala.—There were severe dust-storms and rain fifty per cent. above normal. Permanent construction of drains was improved. Sandflies were prevalent, just before and after the hot weather, but no fever epidemics occurred. Personnel indulged extensively in recreation. Health was good, and medical supervision of detached flights satisfactory. Mosquitoes were reduced by work on the main nullah of the station boundary.

(*c*) Lahore.—Hedges and grassplots were planted, and improvements to internal decoration and construction of bungalows and drainage, were carried out. Health was satisfactory, but more insect-proofing is still required.

(*d*) Conditions at Chaklala—a tented camp—were satisfactory, and medical and sanitary provision for the frequent detached flights from this unit were well organised.

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(*e*) At Miranshah, a station permanently catering for a flight with the possibility of expansion, the chief difficulty was prevention of malaria and dysentery. Improvements in drainage, conservancy, flyproofing and standard of welfare are being carried out.

(*f*) At Kohat, improvements to barrack amenities, such as grassplots and paths, were made, verandahs were improved and flyproofing and new drainage effected. Health was satisfactory.

(*g*) Peshawar.—The surroundings of the old barracks were improved.

(*h*) Risalpur.—Additional flyproofing and water-storage were done. Intensive action was taken against dust and flies.

98. **Iraq Command.**—(i) The *average strength* was 1,954.

(ii) *Climatology.*—The average maximum and minimum temperatures were a little above the average for the last ten years. August was exceptionally hot and humid, and in this month a temperature of 120° F. was recorded at Hinaidi. There were 5 cases of severe heat effects, entailing 70 days of sickness. There were no deaths.

(iii) *Communicable disease.*—No epidemic of infectious disease occurred among British Forces.

The incidences of the commoner communicable diseases were :—

Disease.	*No. of cases.*	*Incidence per 1,000.*
Dysentery primary	23	12
Enteritis, acute, and gastro-enteritis..	95	49
Jaundice..	12	6
Malaria primary	71	36
Phlebotomus fever	102	52
Venereal disease—		
Gonorrhoea, acute	20	10
Syphilis, primary	1	1
Syphilis, tertiary	1	
Soft chancre	7	4

The phlebotomus fever occurred mostly in Hinaidi.

The outbreak of smallpox in the Persian Gulf at Sharjah in 1935 slowly abated and all restrictions were removed in May, 1936. The vaccination measures taken at the time undoubtedly restricted the epidemic and prevented any serious dislocation of Air Traffic in that locality.

All native personnel employed in handling food were bacteriologically examined. 1,335 examinations were made; 178 natives were found to be carriers of disease and were withdrawn from or refused employment.

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One fatal case of plague occurred in the Levy Family Lines at Hinaidi. This was probably contracted in Baghdad City. The only clinical symptoms were pyrexia and a single enlarged cervical gland, which on puncture yielded a pure culture of Bacillus pestis.

Malaria.—Baghdad City has become a malarious locality after enjoying comparative immunity for a period beyond living memory. Two factors seem to be chiefly responsible, e.g. extensive cultivation and irrigation of its environs, and the importation of large numbers of infected conscript recruits for the Army, especially marsh Arabs. These activities extend to the Hinaidi boundaries and were responsible for a proportion of the 50 primary cases which occurred there among British personnel during the year.

(iv) *Water supply.*—A high standard of purity was maintained. Thus, in 1,753 samples of water bacteriologically examined, only 3·5 per cent. were found to be below standard. Of 158 samples of ice 1·3 per cent., and of 1,111 samples of mineral water, 1·2 per cent. were rejected.

(v) *Conservancy.*—Pending the completion of the water-borne system of sewage at Dhibban, the improvised system temporarily in use functioned satisfactorily.

(vi) *Food* was good in quantity and variety. Vegetables and greenstuffs, except potatoes, grown locally, are cheap and have increased, while indigenous fruits such as grapes, oranges, limes and melons are plentiful in season and of high quality. Other soft fruits are good when cooked. There were no diseases directly due to food in mess or canteen, and civil eating places were strictly supervised.

(vii) *Buildings.*—Constructional work at Dhibban is expected to be completed by the end of 1937. Tree-planting and garden amenities progressed. A barrack block was converted to a temporary sick quarters for British personnel and a portion of the Labour Camp Hospital was temporarily appropriated by the Levy personnel. A sanitary section was formed in November.

Mosul.—Was closed down except for a Rest House for the use of R.A.F. visiting crews.

Hinaidi.—No new work was carried out on account of the move to Dhibban.

Shaibah.—A new hangar, apron, steel defence perimeter (complete except for lighting), and a swimming bath with filtration plant were completed.

Margil.—Sick quarters at *Makinah* were reconditioned and one ward enlarged. All ward floors were tiled.

(viii) The *bacteriological standard* of all swimming-baths was uniformly good.

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(ix) *Cruises.*—Medical officers accompanied two separate flights of 3 and 4 weeks respectively to the Persian Gulf in November. Ground landing staffs en route were inoculated.

There was no change in the summer training camp at Ser Amadia.

99. **Malta.**—(i) The *average strength* of the command was 763 (excluding Fleet Air Arm), and the incidence of disease, excluding cases of not more than 48 hours, was 293 per 1,000.

(ii) *General health.*—In spite of the congestion of barrack accommodation at one period no ill-effects to health resulted.

(iii) *Communicable disease.*—There was no outbreak of epidemic disease amongst service personnel, although amongst the civil population there were 27 cases of bubonic plague with 11 deaths. The infection was thought to have been brought in infected grain or fodder from Tunis, where the disease is endemic. The venereal disease incidence was 7 per 1,000 and that for phlebotomus fever 10 per 1,000.

(iv) *Water supply* and *rations* were satisfactory.

(v) *Cruises.*—A long distance cruise was made in December to the West Coast of Africa by two flying boats. The crews were immunised against yellow fever by means of immune serum followed by virus; and instructed in first-aid, water chloramination and personal precautions against yellow fever before departure. Interiors of aircraft were sprayed twice daily during the trip; the complete hull was mosquito-proofed; and individual nets issued for use when ashore. As a protection against malaria, quinine was given daily.

(vi) *Building.*—Surface work on the Kali aerodrome was almost completed and lay-out plans approved from the hygienic standpoint.

100. **Middle East Command.**—(i) The *average strength* was 3,893 for Egypt and Khartoum, and 716 for Palestine and Transjordan, giving a total of 4,609.

(ii) *Climatology.*—Egypt experienced a succession of heat waves from February to April; a record high temperature of 93° F. for February was recorded at Cairo. During these months the temperature in Palestine was several degrees above the normal. The temperature and weather conditions in Middle East were normal during the summer months. In October and November a further heat wave was experienced in both Egypt and Palestine, followed by very cold weather and considerable rainfall in December. There was a fall of snow at Amman on 29th December.

(iii) *General health.*—The disease incidence, excluding cases of not more than 48 hours, was 465 per 1,000.

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(iv) *Communicable diseases.*—The incidences for the commoner communicable diseases were :—

Disease.	*No. of cases.*	*Incidence per 1,000.*
Dysentery, primary	30	6
Enteritis, acute, and gastro-enteritis	186	40
Jaundice	33	7
Malaria, primary	119	26
Phlebotomus fever	71	15
Venereal disease—		
Gonorrhoea, acute	46	10
Syphilis—		
Primary	2	1
Secondary	2	
Soft chancre	37	8
	87	19

Malaria.—The incidence of primary malaria was 26·0 per 1,000. The incidence at Ismailia and Abu Sueir was markedly higher in 1936, being 43·0 and 81·0 per 1,000 respectively. Strict anti-malaria measures were carried out, and in addition, the Public Health Department drained the " Birkas " lying between these two Canal Zone stations. Experiments with the Window Indicator at Ismailia showed that great numbers of mosquitoes were windborne from the adjacent North and North-West marshes, and as the huge task of completely draining these areas will take a very long time, it was decided to mosquito-proof the living quarters in these two stations.

A minor outbreak of scarlet fever occurred at Ismailia in November and December, the origin being traced to a native cook. All contacts, cookhouse staff and medical personnel were given passive immunity, and working quarantine was imposed. No further cases resulted.

Jaundice—No case of leptospirosis was reported, the diagnosis being acute catarrhal jaundice in all instances.

Yellow fever.—Following the increase of yellow fever in Nigeria and the Gold Coast, the Sudan Government took stringent measures to prevent the disease being introduced into the country ; aircraft operating in West Africa were disinsecticised before entering the Sudan and their personnel received protective inoculation against yellow fever.

(v) The *water supply* was satisfactory, except at Mersa Matruh, where it required treatment before being fit for drinking, and at Sarafand, where the water from No. 2 Bore Well was found to contain hydrogen sulphide, which vitiated the action of chlorine and chloramine. Experiments are being made with a cascading plant which, if successful in removing the sulphide, will be permanently installed.

(vi) *Conservancy.*—Throughout the command, sewage was mainly water-borne. The bucket system continued in use at Khartoum, Helouan, Ma'an and Nairobi.

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(vii) *Disinfestation.*—Bugs were found to infest heavily the Villa Nationale, an old building which houses Headquarters staff. Fumigation by hydrocyanic acid gas was carried out by Imperial Chemical Industries, Ltd., with very satisfactory results.

(viii) *Food supplies.*—The voluntary contribution of airmen of 5–10 piastres per week ensured food varied and well balanced for the climatic conditions and hours of work in this command.

A chemical analysis of a rump steak ration from Khartoum showed that the percentage of fat in the lean meat was much lower than that of lean meat in England. A 15 per cent. cash allowance was made, therefore, to buy extra animal fat, fruit and vegetables to supplement the lack of fat and vitamin A in the ration. An extra ration of butter for all troops in the Sudan is under consideration.

(ix) *Dopers.*—One case of nausea and vomiting was found at Heliopolis at the quarterly inspection of dopers. It was considered to be due to the inadequate ventilation of the shed for the increased amount of doping requiring to be done. All doping will, in future, be carried out in the open.

(x) *Cruises.*—There were two service cruises :—

(*a*) Nairobi to Southern Rhodesia, 11th to 24th August, 1936; personnel strength was 16. Strict anti-malaria precautions were taken, and 5 grammes of quinine issued daily to each member. No cases of sickness resulted.

(*b*) Helwan to Cyprus, 6th August to 11th September, 1936; personnel strength was 25. Five members were admitted to hospital in Cyprus; 2 with gastro-enteritis, 1 catarrhal jaundice, 1 P.U.O., 1 malaria (contracted before departure). After returning from the cruise, 2 men developed catarrhal jaundice and 1 venereal disease.

Before each cruise all members were medically examined, made dentally fit and given protective inoculations against smallpox and the enteric group of fevers.

(xi) *Building.*—No change in the general character of the permanent stations has taken place during the period under review.

Headquarters, R.A.F., Middle East, Cairo.—The old Royal Automobile Club in Sharia Shawarbi Pasha was taken over as a sergeants' mess, providing, in addition, living accommodation for 12 warrant officers and senior N.C.Os.

Heliopolis.—Three warrant officers' quarters and 20 airmen's married quarters were completed and occupied by the previous tenants of the old married quarters. The latter have not been reoccupied on the recommendation of the Principal Medical Officer.

Helwan.—An elevated water tower for the station water supply was completed.

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Khartoum.—A new station laundry, with adequate facilities for washing, ironing and storage, was erected and taken into use.

Ma'an.—A new bakery was built, which works satisfactorily.

Sarafand.—The new cold storage plant and new sewerage plant were completed and work satisfactorily.

Nairobi.—During 1936 the R.A.F. Detachment at Nairobi (now No. 223 (B) Squadron) was provided with semi-permanent accommodation and all tentage removed.

This accommodation consists of corrugated iron hutments with matchboard lining as dado, 4 ft. 6 in. high, and Siscalcraft above dado, the floors having a bituminous topping. A medical inspection room was built of the same material, in which minor dressings are done by the medical orderly, and medical inspections are carried out by the visiting medical officer. This building consists of a small one-bedded detention ward, a waiting-room, dispensary and a sanitary and ablution annexe.

Pathology and Tropical Medicine

101. (i) *General.*—The total number of routine specimens examined in the R.A.F. pathological and clinical laboratories in the United Kingdom and abroad during 1936 was 55,684 as compared with 54,885 the previous year. A synopsis of the work done in each laboratory is shown in Table XXVIII, page 98.

(ii) *Teaching.*—At the R.A.F. Institute of Pathology and Tropical Medicine, Halton, 2 officers received advanced instruction in pathology, bacteriology and tropical medicine, and 39 newly recruited medical officers were given a three-months' course in pathology, hygiene and tropical medicine. Two airmen received a year's special training in general laboratory work for the trade of laboratory assistant. Instruction in hygiene and sanitation is dealt with under the heading " hygiene," para. 89 (iii).

Surgery

102. (i) *General.*—During the year there was an increase in the surgical work both at home and abroad.

(ii) *Surgical operations.*—The table below shows the surgical operations carried out in R.A.F. hospitals and sick quarters at home and abroad.

	Major.	*Minor.*	*Total.*
Home	721	1,978	2,699
Abroad	207	1,027	1,234
Totals	928	3,005	3,933

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(iii) *Anaesthetics.*—(*a*) A total of 1,305 general anaesthetics was administered during the year. The forms of general anaesthetic used were :—

Nitrous oxide, oxygen and ether	420
Nitrous oxide	232
Chloroform and ether	187
Nitrous oxide and oxygen	134
Ethyl chloride	43
Nitrous oxide, oxygen, ether and chloroform ..	35
Ether	35
Ethyl chloride and ether	35
Chloroform	16
Vinesthine	9
Various other combinations of drugs	37
Basal anaesthetics—Evipan	122
Total	1,305

(*b*) Percaine was used to induce spinal anaesthesia for one case.

(*c*) The local anaesthetics used in R.A.F. hospitals and sick quarters, excluding dental surgery, were :—

Ethyl chloride	981
Novocaine	200
Cocaine	176
Novutox	99
Others	69
Total	1,525

(iv) *Radiological departments.*—The following table records the radiological work carried out by R.A.F. medical units during the year :—

	Home.	*Abroad.*	*Total.*
General	3,534	1,440	4,974
Opaque meals	154	66	220
Pyelography	72	44	116
Cholecystography	34	15	49
Opaque enemata	13	10	23
Chest (Lipiodol)	6	3	9
Totals ..	3,813	1,578	5,391

These figures do not include examinations in connection with dental work.

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(v) *Massage and electro-therapeutic departments.*—The following treatments were carried out during the year at home and abroad :—

	Home.	*Abroad.*	*Total.*
Massage treatments and exercises	13,699	6,926	20,625
Electrical treatments (excluding radiant heat) ..	7,237	2,434	9,671
Radiant heat	6,300	2,424	8,724
Totals	27,236	11,784	39,020

These figures include both patients attending for treatment and hospital cases.

(vi) *Ear, nose and throat departments.* (*a*) *Operations.*—The following operations were carried out in R.A.F. hospitals and sick quarters during the period under review :—

	Home.	*Abroad.*	*Total.*
Enucleation of tonsils and adenoids	170	25	195
Proof puncture of maxillary sinus	91	65	156
Mastoidectomy	23	—	23
Intranasal antrostomy ..	7	12	19
All others	67	28	95
Totals	358	130	488

(*b*) *Anaesthetics.*—In connection with ear, nose and throat operations the following anaesthetics were administered :—

General anaesthesia	272
Local anaesthesia	213
Evipan	37
Total	522

Medical Training Depôt

103. (i) During the year, 39 medical and 14 dental officers underwent their initial course of training in service routine and tropical medicine and hygiene, on appointment to commissions. Of these, 8 medical and 2 dental officers began their training at the end of 1935, completing it in 1936.

(ii) Two hundred and two recruits (185 medical and 17 dental), underwent Part I of their training at the depôt during the year, of whom 31 medical and 10 dental had begun the course in 1935. Of these, 15 medical and 2 dental airmen were unsuccessful in their examinations and remustered to other trades as unlikely to prove efficient in the medical and dental branches; 2 medical airmen

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were invalided and one was discharged. One hundred and twelve medical and 9 dental airmen successfully completed this part of the course, while 55 medical and 6 dental airmen remained under training at the end of the year.

(iii) During 1936, 350 airmen of the medical and dental branches presented themselves at the various trade tests for reclassification, remustering, extra-qualification, or promotion. Of this number 285 were successful, and of the 65 failures, 33 were candidates for reclassification.

Physical Efficiency of Serving Officers, Cadets and Airman Pilots of the Royal Air Force

104. (i) Five thousand and twenty-four officers, cadets and airman pilots were examined as to their physical efficiency and fitness for the duties of their respective branches during the year. This number is made up of 2,718 officers of the general duties branch liable for flying duties as pilots of aircraft, 469 not so liable on account of age or type of employment, 777 officers of the ancillary branches who are only required to be fit for general service and to fly as passengers, 127 cadets, and 933 airman pilots who should be fit for full flying duties.

(ii) Of the 2,718 officers of the general duties branch liable for flying duties as pilots, 97 per cent. were fit for full flying duties. Of these 2,718 officers, 2,047 who were under 30 years of age, were required to be fit for full flying duties as pilots and 2,005 or 98 per cent. reached this standard. Of the 671 officers over 30 years of age 624, or 93 per cent. were fit for full flying duties. Table XXIII, page 92, compares the percentage of officers of the general duties branch liable for flying duties, found fit for full flying duties in the years 1922 to 1936. The figure for 1936—97 per cent. fit—is the highest yet recorded. Tables XXIV and XXV on pages 93 and 94, analyse the responses to the standard physical efficiency tests, of the officers of the general duties branch, liable for full flying duties. Table XXVI, page 96, analyses under certain headings the unfitness of the 89 officers of the general duties branch liable for full flying duties who, through some disability, failed to reach the desired standard. It will be seen that medical conditions were responsible for by far the largest proportion of the disabilities, while defects of vision and surgical conditions were next in importance. Of these 89 officers unfit for full flying duties, 28 were fit for service at home and abroad, and 61 for home service only. Of the 28 fit for home and overseas service, 26 were fit for restricted flying duties as pilots. Of the 61 fit for home service only, 22 were fit for full flying duties and 20 for restricted flying duties as pilots. These restrictions normally apply to duration and altitude of flight, aerobatics, or type of aircraft to be piloted. Thus 76·4 per cent. of those categorised as unfit for full flying duties were fit for limited flying duties. Four hundred and sixty-nine officers of the general duties branch in whom,

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on account of age or special appointments, fitness for flying as pilots is not essential, were examined during the year. Of these, 70 per cent. were fit for full flying duties and 14 per cent. for limited flying duties, making a total of 84 per cent. fit as pilots of aircraft. Eleven per cent. were fit for full ground duties at home and abroad and the remaining 5 per cent. fit for ground duties at home only. These figures show little change as compared with 1935.

(iii) Of 127 cadets examined during the year as to their fitness to fly as pilots, 98 per cent. were fit for full flying duties. This compares with 100 per cent. in 1935 and 97 per cent. in 1934. Tables XXIV and XXV analyse the responses of the cadets to the standard physical efficiency tests.

(iv) Of 933 airman pilots 99 per cent. were fit for full flying duties, the remaining 1 per cent. being restricted as regards aerobatics, altitude, or duration of flight, or temporarily unfit at the time of examination. In Tables XXIV and XXV will be found the responses of the airman pilots to the standard physical efficiency tests.

(v) Of 777 officers of branches other than the general duties branch, who must be fit for general service and to fly as passengers, 96 per cent. were fit for full duties, 3 per cent. for full duties at home only, and the remaining 1 per cent. unfit. This shows little change from 1935.

Princess Mary's Royal Air Force Nursing Service

105. During 1936 the average strength of the Branch was 115. Thirty-six members—19 at home and 17 abroad—were admitted to hospital, representing 585 days' sickness, or an average of 5·1 days per member compared with 7·2 in 1935 and 7 in 1934; the average number of sick daily was 1·6 in 1936 compared with 2·1 in 1935 and 2·0 in 1934. Three members were invalided from abroad to the United Kingdom. One death occurred in the Service during the year.

Summary of Medical Examination of Recruits

106. (i) Of the provincial recruiting depôts opened during 1935, that at Portsmouth was closed in March, 1936. In the case of Plymouth the preliminary medical examination of recruits was transferred to a local civilian medical practitioner, and the final examination carried out in London. At the remaining depôts the medical officers were responsible for the final medical examination as in the previous year. In the London and Scottish areas the preliminary examinations were carried out by civilian medical practitioners, the final examinations taking place in London and Glasgow. This procedure was also adopted for recruits examined by medical officers at R.A.F. stations. Candidates for attestation as aircraft apprentices, apprentice clerks and boy entrants were examined at Halton, Ruislip and West Drayton respectively by R.A.F. medical officers under the direction of the principal medical officers of the respective commands.

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(ii) (*a*) During 1936, medical examinations were carried out on 19,031 candidates for enlistment as airmen; of these, 12,255 or 64·3 per cent., were found fit for general service compared with 54·4 per cent. in 1935, and 44·2 per cent. in 1934.

(*b*) At Halton, 83·4 per cent. of 2,357 candidates were found fit as aircraft apprentices as compared with 84 per cent. in 1935.

(*c*) At Ruislip, 233 candidates were examined as to fitness for entrance as apprentice clerks, of whom 82·8 per cent. were fit as compared with 80 per cent. in 1935.

(*d*) Of 1,060 applicants examined at West Drayton as boy entrants, 77·2 per cent. were accepted as compared with 72 per cent. in 1935.

(*e*) During the year under review, 9,872 recruits were attested as airmen; these, together with 1,937 aircraft apprentices, 152 apprentice clerks and 636 boy entrants, make a total entry of 12,597 as compared with 10,779 in 1935.

(iii) Civilian medical practitioners in the provinces carried out preliminary medical examinations on 3,373 candidates for enlistment as airmen, of whom 1,137 or 33·7 per cent. were found unfit, compared with 40·9 per cent. in 1935 and 44 per cent. in 1934. Of the fit, 1,901 attended a recruiting depôt for final examination, where 362 or 19 per cent. were rejected. In 1935, 20·3 per cent., and in 1934, 20 per cent., were rejected at the final examination.

(iv) At 33 R.A.F. stations, 449 candidates were given a preliminary examination for enlistment as airmen, of whom 146, or 32·5 per cent., were found unfit. The figures for 1935 and 1934 were 38 per cent. and 37 per cent. Of those found fit at the preliminary examination, 182 attended for final examination, where 21·9 per cent. as compared with 24·2 per cent. in 1935 and 20 per cent. in 1934 were rejected.

(v) At recruiting depôts, 17,292 examinations were carried out. Of these, 1,901 had been found fit by civilian medical practitioners, and 182 by R.A.F. station medical officers. The remainder were direct applicants who had not previously been examined; of the number examined, 11,799 were found fit and 5,493 or 31·7 per cent. were rejected.

(vi) During the year, 15,209 direct applicants who had not had a preliminary medical examination were examined at the various recruiting depôts. Of these, 5,091 or 33·4 per cent. were unfit. For the years 1935 and 1934 the corresponding figures were 30·7 per cent. and 36 per cent.

(vii) Of 11,799 candidates who were accepted, 906 or 7·6 per cent., were found to have defective colour vision, compared with 11·1 per cent. in 1935, and 4.123 or 34·9 per cent. had not been vaccinated, compared with 32·6 per cent. in 1935.

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(viii) During the year, 71 airmen and aircraft apprentices, having less than six months' service, were invalided from the service. The following table shows the principal causes of invaliding :—

Acute rheumatism (sequelae)	12
Pulmonary tuberculosis	6
Schizophrenia	7
Pleurisy	5
Chronic suppurative otitis media	5

These invalids each received an average of 72·6 days' treatment.

In addition to the number invalided, 92 airmen, 5 apprentices and 1 boy were discharged as unlikely to become efficient on medical grounds. Of the 98 so discharged, 89 received medical treatment amounting to an average of 32·4 days each. The principal disabilities of those receiving treatment were as follows :—

Psychopathic personality	25
Temperamental instability	
Epilepsy	18
Chronic suppurative otitis media	10
Acute rheumatism (sequelae)	8
Enuresis	5
Valvular disease of the heart	3
Duodenal ulcer	2
Pleurisy	2

Royal Air Force Reserve

107. (i) The strength of the R.A.F. Reserve of Officers and airman pilots at the end of 1936 was 2,110.

Classes A, AA, AA1 and AA2 (General duties)	958
Class B (Ground duties, including Equipment branch)	77
Class C (General duties, employed overseas, Accounts branch, and over age).	468
Classes D and DD (Medical branch)	45
Class D (Dental)	6
Class E (Airman pilots)	55
Class F (Airman pilots)	501
	2,110

Class C (general duties, employed overseas and over age) embraces both officers fit for full flying duties (many of whom hold Class B Civil Flying licences and are employed abroad) and those fit for ground duties only.

(ii) During the year, 1,044 medical examinations were carried out on Reserve personnel reporting for training. Of these, 145 were brought before a medical board for various disabilities, 9 being found permanently unfit for Reserve service, and 1 admitted to hospital for observation, where a diagnosis of Sub-acute Infective Endocarditis, to which the patient succumbed, was made.

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(iii) In 1936, 53 Reserve personnel were non-effective sick representing 414 days' sickness ; this figure includes 23 cases of not more than 48 hours duration.

(iv) Two members of the Reserve Class F were involved in flying accidents while undergoing training. One received 7 days' treatment in quarters, and the other 44 days' hospital treatment. One member of Class F was fatally injured in a flying accident.

(v) Two hundred and six officers of the Reserve were examined for extension of service in 1936.

Transfer of Casualties, and Medical Assistance by Air

108. (i) During 1936 a total of 161 patients were conveyed by air.

(ii) In the *Middle East Command* 44 patients were carried. Of these flights 13 were at the request of the medical authorities, and in 4 cases advantage was taken of the presence of aircraft carrying out the routine service duties. The types of aircraft used and the numbers of patients evacuated were Vincent 1, Valencia 2, Hart 2, Gordon 12. The Neil Robertson stretcher was used on two occasions, both in Gordon aircraft, the remaining patients being sitting cases. A total of 1,570 miles was covered in 35½ flying hours. Of the remaining 27 cases, which were evacuated from Mersah Matruh to Aboukir or Heliopolis, no details are available. A flight of particular interest was undertaken to supply urgent medical stores to a police post in Palestine where several of the members had been wounded in an engagement.

(iii) In the *Iraq Command* 106 patients were carried in 65 flights, 7 of which were at the request of the medical authorities. A total of 17,645 miles was flown involving 207 flying hours. The types of aircraft used, and the numbers of patients carried in each were—Valencia 102, Vincent 3, Hardy 1. The Neil Robertson stretcher was used for 6 patients in Valencia aircraft, while the remainder were evacuated as sitting cases.

(iv) In the *Aden Command* 8 patients were evacuated to hospital in 8 flights, 7 of which were at the request of the medical authorities, and a total of 1,570 miles was covered in 16 flying hours. The aircraft used was the Vincent, and 2 patients were evacuated by the Neil Robertson stretcher, the remainder travelling as sitting cases.

Four flights of particular interest were undertaken during the year :—

(*a*) In February a seaman who was seriously ill on board a ship near Socotra was transferred to a flying boat and evacuated to hospital in Aden.

(*b*) In October an airman suffering from acute appendicitis was transferred by night from Burao in Somaliland to Aden.

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(*c*) In November an injured naval rating was conveyed from Perim to Aden for treatment.

(*d*) In December an officer of the Somaliland Camel Corps who was injured in a game of polo was evacuated from Hargeisa to Aden.

During the year R.A.F. medical officers visited several seriously ill local notables at the request of the political officer. One of these was evacuated by air to hospital in Aden. In addition medical assistance was given at various points during routine flights. R.A.F. medical officers visited Lahej by air to investigate an outbreak of disease among the troops and workmen of the Sultan, and also Nisab to select recruits for the Aden Levies.

(v) In *India* 3 patients were carried in 3 flights, 2 of which were at the request of the medical authorities. A total of 1,274 miles was covered involving 14½ flying hours. The aircraft used were Hart or Wapiti, and all the patients were transferred as sitting cases. Two flights were of particular interest: (*a*) A private soldier whose recovery depended on rapid transfer to the hills was flown from Lahore to Chaklala, whence he continued the journey by road. (*b*) Two aircraft flew to Kabul with anti-rabic vaccine which was urgently required.

(vi) In the *Mediterranean Command*, a medical officer was conveyed by air from Malta to Crete to assist those injured in a civil flying-boat accident.

Dental Treatment

109. (i) The standard of oral hygiene of recruits and aircraft apprentices on enlistment, during the year under review, is classified as follows :—

Recruits

	per cent.		per cent.	
Good ..	55·7	compared with	34·5	for the previous year.
Fair ..	39·2		59·0	
Neglected ..	5·1		6·5	

Aircraft apprentices

	per cent.		per cent.	
Good ..	20·4	compared with	21·0	for the previous year.
Fair ..	61·2		66·5	
Neglected ..	18·4		12·5	

(ii) The percentage of aircraft apprentices and boys found free from dental caries on entry was 1·3, compared with 3·3 for the previous year, and the percentage in regard to recruits was 1·6, compared with 1·1. The average number of fillings required per head was 5·58 for aircraft apprentices and boys and 4·92 for recruits as compared with 5·3 and 4·9 respectively for 1935. The average

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number of extractions for aircraft apprentices and boys was 0·4 and for recruits 0·7 per head, which are identical with the figures for the previous year.

(iii) (*a*) The total number of fillings completed by dental officers during 1936 was 54,864 and for members of the Princess Mary's Royal Air Force Nursing Service, and wives and families 1,755, giving a total of 56,619 or an increase of 20,635 over the previous year. Of the total number of fillings for Service personnel, 49,628 were completed at home and 5,236 abroad as compared with 28,923 and 4,959 respectively in 1935.

(*b*) The total number of extractions completed by dental officers during 1936 for service personnel was 19,987, and for members of the Princess Mary's Royal Air Force Nursing Service, and wives and families 2,666, giving a total of 22,653 or an increase of 9,267 over 1935. The increase for serving personnel was 9,102 extractions. Of the total number of extractions for service personnel 18,335 were completed at home and 1,652 abroad, as compared with 9,554 and 1,331 respectively in 1935.

(iv) Four hundred and eighty-eight X-ray film exposures were made in connection with treatment at the Uxbridge Depôt Dental Centre.

(v) *Anaesthetics.*—One thousand and nine general anaesthetics were administered during the year as follows :—

	Nitrous Oxide.	Chloroform and ether.	Evipan.	Oxygen and Ether.	All others.	Total.
At Home ..	788	10	88	—	10	896
Abroad	45	13	15	40	—	113
Total	833	23	103	40	10	1,009

(vi) Table XXIX, page 99, gives an analysis of all dental work completed at home and abroad.

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TABLE XIX.—NUMBER OF MEDICAL EXAMINATIONS CARRIED OUT AT THE CENTRAL MEDICAL ESTABLISHMENT DURING THE YEARS 1931–1936.

Nature of medical examination.	1931.	1932.	1933.	1934.	1935.	1936.
Flying duties (General)	*372*	*397*	*284*	*559*	*1,774*	2,182
Medical boards	*1,144*	*1,132*	*1,164*	*1,118*	*1,006*	1,374
Cadets (applicants) ..	*234*	*294*	*312*	*393*	*405*	453
Reserves (applicants) ..	*131*	*157*	*208*	*370*	*553*	755
Airman pilots	*115*	*107*	*46*	*85*	*773*	598
Ground duties	*170*	*167*	*148*	*73*	*123*	170
Civil pilots	*673*	*799*	*892*	*871*	*1,070*	1,149
Annual confidential reports	*142*	*140*	*141*	*130*	*159*	212
Civilian personnel ..	*51*	*64*	*47*	*83*	*151*	124
Consultants cases ..	*124*	*77*	*59*	*53*	*52*	72
Total	*3,156*	*3,334*	*3,301*	*3,735*	*6,066*	7,089

TABLE XX.—RESULTS OF 3,118 MEDICAL EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON 2,600 CANDIDATES FOR FLYING DUTIES 1936.

Class of candidate.	Number accepted.	Number rejected.		Total.	Percentage accepted.
		Finally.	Temporarily.*		
Cadets	281	37	7	325	86
Airman pilots	326	171	42	539	60
Short service commissions	1,167	377	120	1,664	70
Fleet Air Arm	28	3	—	31	90
Secondments from Army	8	—	—	8	100
Permanent commissions (University nominations)	26	2	5	33	79
Totals	1,836	590	174	2,600	71

* These cases were still temporarily unfit at the end of 1936.

Note. This table includes examinations of individuals who did not necessarily enter the Royal Air Force e.g. preliminary examinations for the Cadet College, Cranwell.

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TABLE XXI.—CANDIDATES ACCEPTED FOR FLYING DUTIES—AVERAGE PHYSICAL EFFICIENCY TESTS AND MEASUREMENTS RECORDED AT THE CENTRAL MEDICAL ESTABLISHMENT.

Nature of tests.	Unit of measurement.	All classes of candidates (numbers entering the Royal Air Force in each period are shown in brackets).			
		1925–29 (2,033).	1930–34 (1,631).	1935 (861).	1936 (1,676).
Standing height	Feet and inches.	5′ 9·0″	5′ 9·5″	5′ 9·0″	5′ 9·0″
Weight	Lbs. ..	142	146	145	146
Chest	Inches ..	34·0″	34·5″	34·5″	34·5″
Vital capacity ..	Cc. ..	4,921	5,018	5,047	5,042
Breath-holding	Seconds	78·8	83·6	83·8	79·9
Expiratory force	Mm. Hg.	139·5	139·9	139·9	124·9
Fatigue test	Seconds	65·8	69·6	68·1	65·4
Systolic pressure	Mm. Hg.	129·9	131·3	131·3	130·6
Diastolic pressure	Mm. Hg.	79·0	78·0	77·1	76·2
Pulse rate :—					
Sitting	Per min.	72·1	71·7	72·0	73·6
Standing (1st 5 seconds)	,,	*	94·6*	92·3	94·8
Standing (lowest steady rate).†	,,	79·9	81·8	81·4	83·3
After exercise	,,	104·8	105·7	106·5	109·0
Time taken to return to normal.	Seconds	29·9	32·1	36·1	38·3

* Not recorded prior to 1933.

† Comparable with " pulse rate, standing," of reports prior to 1933.

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TABLE XXII.—CAUSES OF REJECTION, ON MEDICAL GROUNDS, BY THE CENTRAL MEDICAL ESTABLISHMENT—1936.

	(1) Vision.		(2) Ear, nose, and throat.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1) (2) (3) with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	3	2	—	—	3	1	—	—	1	2	7	5
Short service commissions ..	9	132	23	12	65	179	5	24	20	32	122	379
Cadets	3	14	1	1	2	17	1	1	—	4	7	37
Reserves	6	71	8	6	19	67	1	10	2	16	36	170
Airman pilots ..	1	60	14	7	24	69	1	17	2	18	42	171
Auxiliary Air Force	—	—	—	1	—	—	—	—	—	—	—	1
Fleet Air Arm ..	—	3	—	—	—	—	—	—	—	—	—	3
P.M.R.A.F.N.S. ..	—	4	—	—	—	—	—	—	—	1	—	5
Preliminaries for commissions and cadets	—	13	1	2	3	7	2	—	—	5	6	27
Others	2	4	1	—	1	2	—	1	—	—	4	7
Total ...	24	303	48	29	117	342	10	53	25	78	224	805

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TABLE XXIII.—PHYSICAL ASSESSMENT IN RESPECT OF AIR DUTIES OF OFFICERS OF THE GENERAL DUTIES BRANCH LIABLE FOR FLYING DUTIES.

——	Year.	Fit for flying.	Unfit for flying.	Total.	Percentage fit for flying.
At home	1936	1,819	76	1,895	96
	1935	*1,493*	*109*	*1,602*	*93*
	1934	*1,342*	*138*	*1,480*	*91*
	1933	*1,368*	*152*	*1,520*	*90*
	1932	*1,483*	*136*	*1,619*	*92*
	1927–31	*1,391*	*179*	*1,570*	*89*
	1922–26	*1,334*	*177*	*1,511*	*88*
Abroad	1936	810	13	823	98
	1935	*587*	*16*	*603*	*97*
	1934	*642*	*15*	*657*	*98*
	1933	*621*	*24*	*645*	*96*
	1932	*583*	*28*	*611*	*95*
	1927–31	*553*	*39*	*592*	*93*
	1922–26	*637*	*71*	*708*	*90*
Total	1936	2,629	89	2,718	97
	1935	*2,080*	*125*	*2,205*	*94*
	1934	*1,984*	*153*	*2,137*	*93*
	1933	*1,989*	*176*	*2,165*	*92*
	1932	*2,066*	*164*	*2,230*	*93*
	1927–31	*1,944*	*218*	*2,162*	*90*
	1922–26	*1,971*	*248*	*2,219*	*89*

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Table XXIV.—Results of Further Tests of Officers of the General Duties Branch, Cadets and Airman Pilots, 1936.

Nature of test.	Officers.						Cadets (125 fit : 2 unfit).		Airman pilots (928 fit; 5 unfit).		Total officers, cadets and airman pilots 3,778).	
	Fit for flying duties (2,629).		Unfit for flying duties (89).		Total (2,718).							
	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.	Numbers.	Percentage.
Tremor—absent	1,068	41	34	38	1,102	41	42	33	344	37	1,488	39
,, present	1,561	59	55	62	1,616	59	85	67	589	63	2,290	61
Self-balancing, steady	2,494	95	81	91	2,575	95	124	98	892	96	3,591	95
,, ,, unsteady	135	5	8	9	143	5	3	2	41	4	187	5
Knee jerks—normal	2,286	87	81	91	2,367	87	106	83	784	84	3,257	86
,, ,, abnormal	343	13	8	9	351	13	21	17	149	16	521	14
Vision, 6/6 both eyes	2,541	96	84	94	2,625	96	127	100	910	97	3,662	97
,, 6/6 and 6/9; 6/9 and 6/9	74	3	4	5	78	3	—	—	19	2	97	2
,, over 6/9 in either eye	14	1	1	1	15	1	—	—	4	1	19	1
Nasopharynx—normal	2,538	97	87	98	2,625	97	123	97	914	98	3,662	97
,, abnormal	91	3	2	2	93	3	4	3	19	2	116	3
Teeth—no treatment required	2,442	93	74	83	2,516	93	121	95	832	89	3,469	92
,, treatment required	187	7	15	17	202	7	6	5	101	11	309	8
Pyorrhœa—absent	2,625	(a)	89	100	2,714	(a)	127	100	933	100	3,774	(a)
,, present	4		—	—	4		—	—	—	—	4	

(a) Present in less than 0·5 per cent. of numbers examined.

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TABLE XXV.—AVERAGE RESULTS OF TESTS OF 2,629 SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, 125 CADETS AND 928 AIRMAN PILOTS FIT FOR FLYING DUTIES, 1936.

—	Age group.	No. examined.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.				Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure.
								Sitting.	Standing (1st 5 secs.)*.	Standing. (lowest steady rate)†.	After-exercise.			
OFFICERS.			Yrs.	Lbs.	Secs.	Mm. Hg.	Secs.					Secs.	Mm. Hg.	Mm. Hg.
At home	Under 25 ..	927	22·2	155·7	81·7	149·4	67·1	70·9	87·6	77·5	100·5	25·3	124·9	49·1
	25–30 ..	561	27·6	159·2	83·6	165·2	68.1	71·3	86·9	77·2	99·1	24·5	124·5	47·2
	31 and over	331	35·9	162·6	79·3	168·0	65·9	71·8	86·9	77·5	98·2	26·2	125·0	46·7
	All ages ..	1,819	26·3	158·0	81·9	157·7	67·2	71·2	87·3	77.4	99·7	25·2	124·8	48·1
Abroad	Under 25 ..	340	22·8	155·8	86·8	147·4	67·2	71·2	87·5	77·3	100·0	24·5	124·3	50·0
	25–30 ..	270	27·8	158·9	86·7	157·5	68·1	70·0	86·3	76·8	98·8	24·0	124·7	47·8
	31 and over	200	35·3	160·4	83·8	165·7	66·0	72·5	87·1	78·1	100·0	24·0	124·4	46·5
	All ages ..	810	27·6	158·0	86·0	155·3	67·2	71·1	87·0	77·3	99·7	24·2	124·5	48·4
Total force ..	Under 25 ..	1,267	22·3	155·7	83·1	148·8	67·2	71·0	87·6	77·4	100·5	25·1	124·7	49·3
	25–30 ..	831	27·7	159·1	84·6	162·7	68·1	70·9	86·7	77·1	99·0	24·3	124·5	47·3
	31 and over	531	35·7	161·8	81·0	167·1	65·9	72·0	87·0	77·7	98·9	25·4	124·7	46·6
	All ages ..	2,629	26·7	158·0	83·1	156·9	67·2	71·2	87·2	77·4	99·7	24·9	124·7	48·2

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CADETS	Under 25 ..	125	19·9	154·0	85·1	151·2	69·4	70·3	85·5	75·6	97·2	24·4	124·6	49·0
AIRMAN PILOTS.														
At home	Under 25 ..	318	22·8	150·3	80·7	147·2	67·4	71·1	87·4	77·1	101·6	25·0	127·9	51·2
	25–30 ..	262	27·9	151·6	85·4	164·8	67·6	72·1	87·6	77·6	101·4	24·6	126·8	49·4
	31 and over	55	33·5	153·7	79·1	166·9	65·3	70·9	86·4	76·7	99·1	25·5	126·9	48·2
	All ages ..	635	25·8	151·1	82·5	156·2	67·3	71·5	87·4	77·3	101·3	24·9	127·3	50·2
Abroad	Under 25 ..	124	23·7	147·6	85·1	133·3	67·7	71·4	88·1	78·0	100·2	25·9	125·8	51·7
	25–30 ..	150	27·1	149·5	85·2	139·1	65·1	72·8	88·9	78·7	100·3	24·6	125·7	49·7
	31 and over	19	34·2	155·7	76·6	150·7	60·8	73·4	89·1	80·2	102·4	24·2	123·4	44·9
	All ages ..	293	26·1	149·1	84·6	137·4	65·9	72·3	88·6	78·5	100·4	25·1	125·6	50·2
Total force ..	Under 25 ..	442	23·0	149·5	81·9	143·3	67·5	71·2	87·6	77·4	101·2	25·2	127·3	51·4
	25–30 ..	412	27·6	150·8	85·4	155·4	66·7	72·4	88·0	78·0	101·0	24·6	126·4	49·5
	31 and over	74	33·7	154·2	78·4	162·8	64·1	71·6	87·1	77·6	100·0	25·1	126·0	47·3
	All ages ..	928	25·9	150·5	83·2	150·2	66·9	71·7	87·8	77·7	101·0	24·9	126·8	50·2

* Not recorded prior to 1933.

† Comparable with " pulse rate, standing " of reports for 1932 and earlier years.

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TABLE XXVI.—REASONS OF UNFITNESS (TEMPORARY OR OTHERWISE) FOR FLYING DUTIES OF 89 OFFICERS OF THE GENERAL DUTIES BRANCH, 1936.

Defect.	At home.	Abroad.	Total.
Vision	12	7	19
Ears or teeth	5	—	5
Medical	41	3	44
Surgical	16	1	17
Defective physical efficiency..	1	2	3
Defective physical efficiency and vision.	1	—	1
Total ..	76	13	89

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TABLE XXVII.—AIRMAN RECRUITS—CAUSES OF REJECTION, 1936.

Total number examined 19,031.	Number rejected.					
Cause of rejection.	By civilian medical practitioners.	At recruiting depôts.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	350	2,114	68	2,532	133	374
Physique, poor	205	845	15	1,065	56	157
Feet, deformities of	89	187	6	282	15	42
Heart, diseases of, including D.A.H.	69	148	10	227	12	33
Ears, diseases of	34	304	2	340	18	50
Lungs, diseases of	5	37	5	47	2	7
Vision, defects of	174	772	22	968	51	143
Speech, defects of	8	31	1	40	2	6
Nervous system, diseases of	8	61	—	69	4	10
Cutaneous system, diseases of ..	20	71	1	92	5	14
Albuminuria	11	121	4	136	7	20
Eyes and eyelids, diseases of ..	5	50	1	56	3	8
Hernia and bubonocele	18	85	1	104	5	15
Joints, diseases of	11	83	—	94	5	14
Veins, diseases of (varix)	29	124	2	155	8	23
Varicocele	30	82	3	115	6	17
Chest and spine, malformations of ..	16	59	—	75	4	11
Urinary organs, diseases of	2	16	—	18	1	3
Bed-wetting, history of	—	47	2	49	3	7
Ulcers, wounds, cicatrices	15	56	—	71	4	10
Other causes	38	200	3	241	12	36
Total	1,137	5,493	146	6,776	356	1,000

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TABLE XXVIII.—SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1936

NATURE OF EXAMINATIONS.	UNITED KINGDOM.			ABROAD.				TOTAL.
	Institute of Pathology.	Cranwell.	Clinical Laboratories.	Aden.	Egypt.	'Iraq.	Palestine.	
ANALYSES, CHEMICAL OR BACTERIOLOGICAL :—								
Faeces	2,433	154	1	1,155	714	2,761	988	8,206
Gastric	51	24	—	8	—	11	44	138
Urine	1,145	3,682	10,640	1,173	1,107	2,117	2,340	22,204
Food	15	1	—	27	9	604*	21	677
Sewage	81	—	—	—	—	—	—	81
Water	457	19	—	18	127	3,037*	139	3,797
Works material	—	—	—	—	—	123*	—	123
BLOOD TESTS :—								
Agglutination	44	4	—	43	5	41	4	141
Coagulation time	21	135	70	3	—	20	6	255
Counts	756	167	—	153	103	357	258	1,794
Cultures	41	13	—	27	8	29	17	135
Grouping	60	20	—	20	—	44	6	150
Malaria parasites	230	31	—	52	280	1,134	1,760	3,487
Sedimentation rates	435	61	—	—	—	57	60	613
Sugar tests	17	3	—	—	—	—	—	20
Urea tests	417	16	—	1	—	26	6	466
Van den Bergh	22	1	—	1	1	22	11	58
Wassermann and Meinicke	832	224	—	281	70	460	266	2,133
CEREBRO-SPINAL FLUID :—								
Bacteriological	37	25	—	7	—	6	1	76
Biochemical	38	22	—	7	—	6	1	74
Cytological	34	22	—	7	—	6	1	70
Complement deviation	15	—	—	—	—	—	2	17
PATHOLOGICAL SPECIMENS	68	7	—	10	1	32	3	121
POST MORTEMS	9	1	—	1	—	4	3	18
PUS, EXUDATES AND TRANSUDATES :—								
Bacteriological	472	52	5	18	20	69	29	665
Biochemical	1	—	—	—	—	5	3	9
Cytological	303	—	—	11	—	20	17	351
Bacillus Ducrey	9	13	—	44	5	1	3	75
Gonococcus	619	280	5	195	49	532	560	2,240
Spirochaeta	10	13	—	45	7	26	14	115
Leishmania	2	—	—	—	1	9	—	12
RENAL EFFICIENCY TESTS	426	17	—	3	—	23	2	471
SPUTA	294	346	855	136	88	239	240	2,198
SKIN SCRAPINGS AND HAIRS FOR FUNGI	27	734	—	8	7	12	8	796
THROAT AND NOSE SWABS	1,842	621	—	74	498	306	246	3,587
VACCINES, AUTOGENOUS	123	26	—	16	6	5	7	183
MISCELLANEOUS	20	13	—	10	1	53	31	128
TOTALS	11,406	6,747	11,576	3,554	3,107	12,197	7,097	55,684
	United Kingdom.			Abroad.				

* Includes 3,763 examinations carried out by Chief Chemist's Laboratories in Iraq: Waters 1,768; mineral waters 1,111; ice 158; foods 603; oils, petrol, cement 123.

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TABLE XXIX.—DENTAL TREATMENT BY R.A.F. DENTAL OFFICERS, 1936.

	Fillings.	Scalings.	Extractions.	Root fillings.	Dentures.				Number rendered dentally fit.
					Number of dentures supplied.	Number of Personnel fitted with dentures.	Repairs.	Remodels.	
United Kingdom (Average strength 35,823)	49,628	13,808	18,335	98	539	376	209	185	10,326
Mediterranean Littoral (excluding Palestine, Transjordan and Sudan) (Average strength 5,292)	3,323	854	1,365	15	63	51	46	59	1,613
Iraq (Average strength 1,954) ..	1,913	697	287	2	59	49	59	29	734
Total (Average strength 43,069)	54,864	15,359	19,987	115	661	476	314	273	12,673
Privilege treatment rendered to members of P.M.R.A.F.N.S. and wives and families	1,755	208	2,666	12	37	24	8	9	489
Grand Total	56,619	15,567	22,653	127	698	500	322	282	13,162

DENTAL TREATMENT RENDERED TO R.A.F. PERSONNEL BY ARMY DENTAL OFFICERS.

India, Palestine, Transjordan and Sudan (Average strength 3,419)	**1,765**	**101**	**320**	**5**	**16**	**12**	**6**	**20**	**743**

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AIR MINISTRY

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1937

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Air Publication 875 (1937)

REPORT ON THE HEALTH of the ROYAL AIR FORCE FOR THE YEAR 1937

The following Report on the Health of the Royal Air Force for the Year 1937 is issued for the information and guidance of all concerned.

By Command of the Air Council,

Donald Banks

AIR MINISTRY

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Air Ministry,
Kingsway,
London, W.C.2.

To the Permanent Under Secretary of State for Air.

Sir,

I have the honour to submit the statistical report on the health of the Royal Air Force for the year 1937.

The health of the force has remained very satisfactory, the incidence of sickness necessitating admission to hospitals and sick quarters having been 404 per 1,000. This figure is less, by 36 per 1,000, than in the previous year.

There has been a fall in the incidences of all diseases and all injuries among apprentices, and it is noteworthy that the incidence of upper air passage infections, which in 1935 was 514·2 per 1,000 in this group, has fallen to 170·6 per 1,000 in the period under review.

Invalidings from the Service, at 5·6 per 1,000 remains as in 1936, and compare with average incidences of 6·1 and 9·5 per 1,000 for the periods 1929–36 and 1921–28 respectively. There was, however, a reduction in invalidings from abroad to the United Kingdom of 5·0 per 1,000 as compared with the previous year.

The incidence of deaths was 4·1 per 1,000, this being a fractional increase from 1936. For the periods 1929–36 and 1921–28 the average incidences were 3·9 and 4·4 per 1,000 respectively.

It is satisfactory to note that, of the officers of the general duties branch liable for flying duties, 98 per cent. were fit for full flying duties; this is the highest figure yet recorded.

I have the honour to be, Sir,

Your obedient Servant,

A. V. J. RICHARDSON,

Director of Medical Services,
Royal Air Force.

November, 1938.

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FOREWORD

1. The method of recording statistics by commands in this report is similar to that adopted for previous reports and is as follows :—

(i) Deaths and final invalids are shown under the command on whose strength the personnel concerned were borne when first admitted to hospital or sick quarters, irrespective of the command in which death or invaliding took place.

(ii) Sickness in respect of cases transferred to home establishment for medical reasons is shown under the command in which the sickness first developed.

(iii) The term " sickness " covers both disease and injury.

(iv) The geographical areas included in the term Mediterranean Littoral are Egypt (including Kenya), Aden, Malta, the Sudan, Transjordan and Palestine. Also included are drafts en route to and from the United Kingdom and personnel employed on special duties.

2. In the present report, in order to present as concise a picture as possible of the health of the Royal Air Force, and to avoid, in later chapters, the repetition of figures already discussed, the subject matter of the different chapters has been re-arranged. Thus in Chapter I, all matter not strictly relevant to the force as a whole has been excluded, and Chapters II and III, which deal with the force at home and the force abroad, have been similarly revised. The section on Hygiene, which was formerly included in Chapter IV, now forms the subject matter of the new Chaper V.

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TABLE—I. SICKNESS AT HOME AND ABROAD—ANALYSED BY GEOGRAPHICAL AREAS.

Geographical area.	Average strength.	Fresh cases of sickness.			Deaths.	Invalided out of service.	Invalided to United Kingdom.	Average duration of each case in days.		Average No. of days sickness per head.		Incidence per 1,000 of strength.				No. sick daily.	
		Not more than 48 hours.	More than 48 hours.	Total.				48-hour cases included.	48-hour cases excluded.	48-hour cases included.	48-hour cases excluded.	Fresh cases of sickness. 48-hour cases included.	Fresh cases of sickness. 48-hour cases excluded.	Deaths.	Invalided out of service.	Invalided to United Kingdom.	48-hour cases included.	48-hour cases excluded.
United Kingdom (*a*).																		
1937..	48,697	14,376	18,625	33,001	190	295	—	9	15	6·3	5·9	678	382	3·9	6·1	—	17·3	16·2
1929–36. Average ..	*24,598*	*5,337*	*9,306*	*14,643*	*82*	*174*	—	*11*	*17*	*6·8*	*6·5*	*595*	*378*	*3·3*	*7·1*	—	*18·6*	*17·8*
1921–28. Average ..	*22,186*	*8,225*	*8,228*	*16,453*	*74*	*243*	—	*10*	*19*	*7·5*	*6·9*	*742*	*371*	*3·3*	*11·0(d)*	—	*20·5*	*18·9*
Abroad: All areas (*c*).																		
1937..	10,535	3,065	5,329	8,394	53	37	143	12	17	9·2	8·8	797	506	5·0	3·5	13·6	25·2	24·1
1929–36. Average ..	*9,390*	*3,558*	*5,076*	*8,634*	*50*	*33*	*149*	*11*	*17*	*9·9*	*9·4*	*919*	*541*	*5·3*	*3·5*	*15·9*	*27·1*	*25·8*
1921–28. Average ..	*8,470*	*6,812*	*6,084*	*12,896*	*60*	*47*	*187*	*9*	*18*	*14·0*	*12·8*	*1,523*	*718*	*7·1*	*5·5*	*22·1*	*38·4*	*35·1*
All areas.																		
1937..	59,232	17,441	23,954	41,395	243	332	143	10	16	6·9	6·4	699	404	4·1	5·6	13·6	18·9	17·5
1929–36. Average ..	*33,988*	*8,895*	*14,382*	*23,277*	*132*	*207*	*149*	*11*	*17*	*7·7*	*7·3*	*685*	*423*	*3·9*	*6·1*	*15·9*	*21·1*	*20·0*
1921–28. Average ..	*30,656*	*15,037*	*14,312*	*29,349*	*134*	*290*	*187*	*10*	*18*	*9·3*	*8·6*	*957*	*467*	*4·4*	*9·5(d)*	*22·1*	*25·5*	*23·6*
Fleet Air Arm. (All areas)																		
1937..	*See* Notes (*a*) and (*c*)							11	16	6·6	6·3	572	387	13·6	2·5	9·9	18·1	17·3
1929–36. Average ..								*12*	*17*	*6·6*	*6·3*	*571*	*370*	*6·4*	*3·2*	*24·8*	*18·1*	*17·3*
Mediterranean Littoral. (*b*)																		
1937								11	17	8·4	7·9	780	461	5·1	2·8	12·9	23·0	21·6
1929–36. Average ..								*9*	*16*	*8·4*	*7·8*	*923*	*488*	*4·3*	*3·2*	*13·0*	*23·0*	*21·4*
1921–28. Average ..								*10*	*19*	*11·6*	*10·8*	*1,192*	*580*	*5·6*	*5·6*	*16·9*	*31·8*	*29·6*
Iraq.																		
1937..								12	16	11·0	10·7	920	674	5·3	3·1	11·1	30·1	29·3
1929–36. Average ..	These figures are included in those							*14*	*20*	*13·2*	*12·8*	*944*	*637*	*4·8*	*4·8*	*24·5*	*36·2*	*35·1*
1921–28. Average ..	given for abroad: all areas.							*10*	*18*	*17·7*	*16·6*	*1,758*	*896*	*8·0*	*5·5*	*27·7*	*48·5*	*45·5*
India.																		
1937..								11	18	7·4	7·1	650	394	5·3	5·3	14·9	20·3	19·5
1929–36. Average ..								*10*	*16*	*9·3*	*8·8*	*919*	*562*	*7·7*	*2·9*	*12·0*	*25·5*	*24·1*
1921–28. Average ..								*7*	*16*	*13·0*	*11·4*	*1,792*	*720*	*7·9*	*5·8*	*23·8*	*35·6*	*31·2*
Far East (*b*).																		
1937..								15	22	12·5	12·0	860	541	2·0	5·1	21·3	34·2	32·9
1936..								15	22	13·7	13·2	926	605	13·5	4·9	19·7	37·4	36·1

(*a*) Fleet Air Arm at home included.
(*b*) Fleet Air Arm excluded from 1927 onwards.
(*c*) Fleet Air Arm abroad included.
(*d*) Excludes 711 invalids through Discharge Centre Medical Board during 1921.

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CHAPTER I.—THE HEALTH OF THE ROYAL AIR FORCE (TOTAL FORCE), DURING 1937

General

1. (i) The total sickness in the Royal Air Force at home and abroad is analysed in Table I, page viii, by geographical areas. There has been no change in the areas since the previous report, and, as in previous years, figures for the Fleet Air Arm, which varies in locality, are given as a whole, irrespective of geographical situation.

(ii) The average strength of the Royal Air Force during 1937 was 59,232, an increase of nearly one quarter over the strength for 1936. The total number of cases of sickness, i.e. inclusive of admissions to hospital and sick quarters, and cases of not more than 48 hours' duration, was 41,395 (699 per 1,000). The number of sick daily was 18·9 and the average duration of each case 10 days, with an average of 6·9 days' sickness per head. These figures, with the exception of the average duration of each case, which remained as in 1936, all show a decreased incidence. If cases of not more than 48 hours' duration are excluded, the number of sick daily at 17·5 per 1,000 is less by 1·4 per 1,000 than in 1936.

2. (i) Causes of sickness, excluding cases of not more than 48 hours' duration in the force as a whole, are analysed in Table II, page 16, by certain diseases, groups of diseases, and injuries, showing the number of cases, deaths and final invalids with the percentage of each to the total.

(ii) In 1937 disease constituted 86·3 per cent. and injuries 13·7 per cent. of sickness, the relative proportions remaining practically unchanged from year to year. As in previous years, " other diseases due to infection," at 31·8 per cent. of all diseases, have by far the largest incidence of any group, though this figure has fallen by 12·6 per cent. from 1936. The figure for influenza has risen from 4·8 per cent. in 1936 to 17·9 per cent., the increase being due mainly to an epidemic of a mild type at home. The remaining diseases and disease groups vary remarkably little from year to year, thus pneumonia at 0·4 per cent. remains as in 1936, and tuberculosis and venereal disease at 0·2 and 2·3 per cent. show only fractional changes. The figures for deaths and final invalids in this table are discussed under these headings in later sections of this chapter.

3. (i) The incidence of sickness and the average duration of each case in days are analysed in Table III, page 17, by groups of diseases and injuries for the force as a whole, and for the force at home, and the force abroad.

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(ii) The incidence of disease at 349 per 1,000 is lower than in 1936 (381·3 per 1,000), as is also the incidence of injury, which has gradually fallen from 81·0 per 1,000 in 1933 to 55·4 per 1,000 in the year under review. The average duration of cases of disease and of injury, with 15 and 18 days respectively, remains as in 1936.

PULMONARY TUBERCULOSIS

4. (i) Table IV, page 18, analyses all fresh cases of pulmonary tuberculosis arising during 1937, by age, trade groups, length of service and groups of units.

(ii) Forty-three fresh cases of pulmonary tuberculosis, 2 officers and 41 airmen, were recorded during the year, giving an incidence of 0·7 per 1,000. For the years 1936, 1935 and 1934 the figures were 38 (0·8 per 1,000), 24 (0·7 per 1,000), 29 (0·9 per 1,000).

(iii) Of these 43 cases, 33 occurred at home, and 10 abroad, the incidences per 1,000 being 0·7 at home and 0·9 abroad. Of the fresh cases 3 died, 34 were invalided from the service, and 6 remained under treatment at the end of 1937. In addition to the fresh cases, 9 cases remained under treatment from 1936. Of these, 8 were invalided from the service and 1 returned to duty, making a total of 42 final invalids from this disease during the year. Of those invalided, 30 were serving at home and 12 abroad when the disease was first diagnosed.

5. (i) In 8 of the 43 fresh cases there was a definite family history of pulmonary tuberculosis. Of the 33 cases which occurred at home, 10 had served abroad in tropical or semi-tropical countries, and 2 of these had a previous history of tropical disease. Of the 10 cases occurring abroad, 2 had a history of tropical disease.

(ii) In 33 of the fresh cases the tubercle bacillus was found in the sputum, while in the remaining 10 the diagnosis was made by positive X-ray and clinical findings.

Venereal Disease

6. (i) An analysis of the incidence of venereal disease at home and abroad and for the whole force during 1937 is given in Table V, page 19. This table also shows the incidences for total venereal disease for each year since 1921.

(ii) The incidence of all venereal disease was 9·2 per 1,000, compared with 9·0 per 1,000 for 1936, in which year the lowest incidence yet recorded was reached. With the exception of soft chancre, where the incidence has fallen from 1·9 per 1,000 in 1936 to 1·3 per 1,000, there has been a fractional increase in all the diseases of this group. As in previous years the figures for these diseases are markedly higher abroad than at home—24·1 per 1,000

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as compared with 6·0 per 1,000. The lower incidence at home may in part be explained by the fact that in the personnel at home are included the youngest age groups, in which the incidence of venereal disease is negligible. The average number of sick daily for venereal disease was 54·5 at home and 42·0 abroad, while the average duration of each case in days for the whole force was 64.

Injuries

7. Table VI, page 20, analyses injuries, giving the cause and nature, whether sustained on or off duty or in games organized by the service. Deaths from injury are also shown. For the purpose of this analysis, 27 cases of medical non-effectiveness due to the effects of heat and 22 due to the effects of cold, electricity or sunburn are not considered as a result of injury.

(i) The number of cases of injury of all types occurring during 1937 was 3,232, an incidence of 55 per 1,000 compared with 59 per 1,000 in 1936 and 69 per 1,000 in 1935. Of this total, in 754 cases the injury was sustained on duty and in 1,112 cases during games or athletics organized by the service. Thus in 1937 57 per cent. of all injuries fall under these two headings, and this figure varies only slightly from year to year.

(ii) There were 182 deaths resulting from injury compared with 118 in 1936, giving an incidence of 3 per 1,000 from this cause.

(iii) Ten individuals were invalided from the service during the period as a result of injury. The causes of injury are distributed as follows:—flying accidents on duty 1, airscrew accidents on duty 2, motor accidents on duty 1, off duty 2, gunshot wounds on duty 1, and other injuries 3, of which 2 occurred on duty, and 1 off duty.

(iv) As in past years, the lower extremity is the site of the majority of injuries, 48 per cent. occurring in this area.

8. *Injuries sustained in flying accidents.*—(i) As a result of accidents while flying on duty there were 289 casualties compared with 189 in 1936, representing respectively incidences of 4·9 and 4·0 per 1,000. The 137 officer casualties on duty were all among the general duties branch, including 2 cadets; of the 150 airmen casualties, 45 were airman pilots or under training as such. There were 3 officer casualties off duty and 2 on leave.

(ii) The number of deaths due to accidents while flying on duty was 142 (2·4 per 1,000) compared with 88 in 1936 (1·8 per 1,000). Thus 49·0 per cent. of the total flying casualties resulted in death, compared with 46·5 per cent. in 1936. Flying accidents accounted

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for 80·0 per cent. of the total deaths from injury. Of the 142 deaths, 66 were officers and 76 airmen ; there were no deaths among cadets. Of the 76 airmen killed, 29 were airman pilots or pupil pilots under training.

(iii) One case only was invalided as a result of a flying accident.

(iv) Of the total of 147 injured as a result of flying accidents, 71 were officers of the general duties branch, 2 were cadets, 16 were airman pilots or airman pilots under training, and the remaining 58 were airmen of various groups.

(v) Excluding cases resulting in death, the average duration of each case was 37 days in hospital or sick quarters compared with 26 days in 1936 and 45 days in 1935.

9. *Injuries caused by airscrews.*—Sixteen cases of injury from this cause are reported, 15 on duty and 1 on leave, compared with 15 cases in 1936. There were no deaths. In 13 of the cases occurring on duty the injury was received while handling the airscrew. In the remaining 2 cases, subsequently invalided, the injuries were due in one instance to the airman's hand being blown by the slipstream of one aircraft into the revolving airscrew of another aircraft immediately behind, and in the other to the airman being struck by the airscrew while crawling out from under the wing. The case occurring off duty was that of an officer on leave who was struck by the airscrew of a privately-owned aircraft.

10. *Injuries sustained while starting motor engines.*—There were 24 cases of injury from this cause, compared with 29 cases in 1936, and of these 20 occurred on duty. There were no deaths or invalids.

11. *Parachute descents.*—Only one case is returned under this heading, that of an airman, who, in making a practice descent, landed on a motor car.

12. *Injuries the result of motor accidents.*—(i) The table shows the number of cases, the incidence per 1,000, and the number of deaths and invalids for a period of 4 years.

Year	Cases.	Case incidence per 1,000 of strength.	Deaths.	Invalids.
1937	446	7·5	16	3
1936	345	7·2	10	5
1935	291	8·3	13	7
1934	349	11·4	18	4

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Of the 446 cases occurring in 1937 from this cause, 39 were on duty at the time. The injuries proved fatal in 16 cases, the personnel, with one exception, having been off duty or on leave when the accident occurred. Three airmen were invalided as a result of injuries; in one case these were sustained in 1936.

(ii) Injuries resulting from motor accidents are further analysed in the following groups:—

(*a*) *Motor cycles* (*occupants*).—During 1937, 232 cases, or 52 per cent. of all motor accidents resulting in injury, occurred to occupants of motor cycles, as compared with 54·5 per cent. in 1936. Injuries falling under this heading amount to 7 per cent. of all injuries. By far the largest proportion of these accidents occurred on leave or in the airman's free time; in only 5 cases was the victim on official duty, and the 7 deaths all occurred off duty: only 1 case had to be invalided from the Service as a result of a motor cycle accident.

(*b*) *Motor cars* (*occupants*).—One hundred and forty-seven cases of injury are reported, of which 7 were on duty at the time. There were 5 deaths as a result of accidents occurring off duty.

(*c*) *Lorries or tenders* (*occupants*).—There were 31 cases of injury to personnel riding in lorries or tenders of which 25 arose on duty. Two deaths occurred 1 on duty and 1 off duty.

(*d*) *Motor vehicles all types* (*non-occupants*).—Thirty-six cases of injury to non-occupants of vehicles are reported (2 on duty) compared with 54 in 1936. In 1 case only was the injury caused by a service vehicle. There were no invalidings for injuries sustained in 1937, but 1 airman was invalided during the year for injuries received in 1936.

13. *Injuries sustained in athletics, games and physical recreation.*—Cases of injury due to these causes amounted to 1,311, and incidence of 22 per 1,000 compared with 1,270 (27 per 1,000) and 1,113 (32 per 1,000) for the years 1936 and 1935. There were 4 deaths, 1 occurring from injuries received in a game of football organized by the Service, and 2 were bathing fatalities off duty. In the remaining case the fatal injuries were received off duty and were due to gymnastics. It was not found necessary to invalid any personnel for injuries sustained under this heading. Of the 1,311 cases, 1,112 (85 per cent.) of the injuries were received in games organized by the Service. This represents 34 per cent. of the total injuries from all causes. Football is responsible for 945 cases (72 per cent.) of this group, the most common injuries being synovitis of the knee joint 245, sprains of the ankle joint 170 and concussion 75.

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14. *Wounds in action.*—One airman was wounded in the thigh during air action in Palestine.

15. *Accidental gun shot wounds.*—Under this heading 8 cases are reported, of which 5 occurred on duty, resulting in 2 deaths and 1 final invalid.

16. *Injuries sustained in workshops.*—Seventeen cases are reported, all of whom returned to duty.

17. *Animal bites.*—There were 5 cases due to this cause.

18. *Other causes of injury.*—The number of cases of injury, not included in the preceding paragraphs, was 1,108. Of these, 366 occurred on duty, and 722 off duty or on leave; and in 20 cases the information was incomplete. Of the cases on duty, 2 resulted in death and 2 were invalided from the service. Among the cases occurring off duty or on leave there were 13 deaths, of which 8 were due to suicide, 1 to a boating accident, 1 to a railway accident, 1 to attack by unknown assailants in Iraq, and in the remaining 2 cases, where the men were found dead, a verdict of death from misadventure was returned.

Final Invalids

19. (i) Three hundred and thirty-two cases, consisting of 12 officers and 320 airmen, were invalided from the service, an incidence of 5·6 per 1,000, compared with 5·5 per 1,000 in 1936. Disease was responsible for 96·7 per cent. of final invalidings, and this figure varies little from year to year. For the years 1936, 1935 and 1934 disease accounted for 94·0, 92·9 and 96·1 per cent. of invalidings. As in previous years, the highest percentages of final invalidings are due to diseases of the nervous system and brain, with 37·0 per cent., and to tuberculosis with 14·8 per cent. Injuries were responsible for 3·3 per cent. of final invalidings as compared with 6 per cent. in 1936.

(ii) The chief causes of final invaliding are given below, with corresponding figures for 1936 and 1935. In comparing these figures, the increase in the strength of the total force should be borne in mind. It will be noticed that the number of cases of psychoneurosis finally invalided has increased from 14 in 1936 to 41 in 1937. This large increase, however, is to be explained by the fact that the section "Diseases of the Nervous system and Brain" has been brought into line with modern classification, and, as a result, certain conditions formerly classified as "diseases of the brain" have now been included under the heading "psychoneurosis."

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	1937.		1936.		1935.	
Diseases of nervous system and brain—						
Psychoneurosis	41		14		12	
Epilepsy	31		15		12	
Mental diseases	26	123	44	85	15	46
Others	25		12		7	
Tuberculosis—						
Pulmonary	42		31		24	
Other forms	7	49	7	38	2	26
Diseases of the respiratory system (excluding pneumonia and pulmonary tuberculosis)	28		20		8	
Diseases of the organs of locomotion—						
Deformities	11		4		2	
Diseases of joints	9		3		4	
Diseases of bone	2	22	1	9	4	10
Diseases of muscles, tendons, bursae	—		1		—	
Diseases of ear and nose—						
Chronic suppurative otitis media	13	21	20	26	10	14
Others	8		6		4	
Acute rheumatism	14		14		11	
Diseases of digestive system	14		3		7	
Diseases of the eye	10		4		5	
Diseases of heart—						
Valvular	6		5		2	
Endocarditis	1	9	2	10	—	6
Disordered action	2		3		4	
Injuries—						
Fractures	6		5		9	
Wounds	—	11	3	16	—	12
Others	5		8		3	

As in previous years, pulmonary tuberculosis was the commonest individual cause of invaliding from the service.

(iii) Eleven officers were finally invalided on account of disease, and 1 for injuries sustained in a flying accident in 1936.

The causes of final invaliding of the 320 airmen were: recent injuries 2, result of old injury 7, and disease 311. Of the cases of recent injury, 1 was the result of an airscrew accident and the other of a motor car accident off duty.

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Deaths

20. Table I, page viii, analyses deaths by number, incidence per 1,000, and by geographical areas. Table II, page 16, shows the percentage of the total deaths classified under groups of diseases, and injury; and Table XII, page 26, analyses by numbers, deaths by disease and injury causes, giving figures for the total force and for the forces at home and abroad.

(i) There were 243 deaths during 1937, an incidence of 4·1 per 1,000, compared with 181 (3·8 per 1,000) in 1936. Of the total of 243 deaths, 187 (77 per cent.) occurred as the result of injury, compared with 118 (65 per cent.) in 1936; and 56 (23 per cent.) were due to disease, as compared with 63 (35 per cent.) in 1936.

(ii) The causes of the 56 deaths from disease were :—

Pneumonia	6
Septicaemia	5
Intestinal obstruction	5
Acute peritonitis	4
Carcinoma	4
Cerebro-spinal meningitis	3
Pulmonary tuberculosis	3
Tuberculosis (other forms)	3
Acute meningitis	2
Acute infective endocarditis	2
Myocardial degeneration	2
Acute appendicitis	1
Acute bacillary dysentery	1
Acute bronchitis (cardiac failure)	1
Acute rheumatism	1
Aplastic anaemia	1
Cerebral abscess	1
Cerebral haemorrhage	1
Cerebral tumour	1
Chronic nephritis	1
Coronary thrombosis	1
Diphtheria	1
Intussusception	1
Myelocytic leukaemia	1
Osteomyelitis	1
Pan-sinusitis (nasal)	1
Polio-encephalitis	1
Teratoma testis	1

Pneumonia and septicaemia are again amongst the chief causes of death from disease.

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21. The 243 deaths were distributed as follows :—

	Home.	*Abroad.*	*Total.*
Officers	60	19	79
Flight cadets	—	—	—
Apprentices and boys ..	5	—	5
Other airmen	125	34	159
	190	53	243

22. Of these deaths, 190 (3·9 per 1,000) occurred at home and 53 (5 per 1,000) abroad. The incidence for home has increased by 1·0 per 1,000 from 1936, and that for abroad has decreased by 1·4 per 1,000.

23. In the case of the officers, death was due to disease in 4 instances and to injury in 75, and of the deaths by injury, 66 were due to flying accidents on duty. The causes of the remaining 9 deaths were : civil aeroplane accidents 3, suicide 2, motor car, yachting and skiing accidents 1 each, and 1 officer succumbed to injuries inflicted by unknown assailants in Iraq.

There were no fatal accidents among flight cadets.

24. Among apprentices and boys there were 4 deaths from disease, and 1 apprentice committed suicide.

25. (i) Of the 159 deaths which occurred among airmen other than apprentices or boys, 53 were due to disease and 106 resulted from injury. Included in the deaths from disease are 5 cases of " effects of heat ". Injury was thus responsible for 67 per cent. of the deaths.

(ii) Of the 106 deaths from injury among airmen, 76 were due to flying accidents on duty (67 at home and 9 abroad), and of the remaining 30 deaths 20 occurred at home and 10 abroad. Of the 20 deaths at home 17 occurred off duty, of which no less than 12 were due to motor car or motor cycle accidents, while of the remainder 1 was involved in the Castlegary railway disaster, 2 were due to bathing accidents, 1 to suicide, and in one case, where an airman was found drowned, a verdict of misadventure was returned. Two of the three airmen who were killed on duty at home were struck by an aeroplane on the ground ; and in the third case an airman on duty at the firing range, disobeying orders, ventured out in the open and was fatally wounded. Of the 10 deaths abroad, other than those caused by flying accidents, 7 occurred off duty, and of these 4 were suicides, 2 were due to motor car accidents and, in the remaining case, where an airman was found hanged, a verdict of misadventure was returned

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at the inquest. Of the 3 airmen killed on duty, 1 was involved in a motor-lorry accident, 1, failing to answer the challenge, was shot by a sentry, and 1 collapsed and died after heading the ball in an organized game of football; death was due to a large subdural haemorrhage.

Age Groups

26. Table VII, page 21, shows the proportions of disease and injury to the sickness incidence in the total force, and in the force at home and the force abroad, by age groups in the case of airmen, and by officers and cadets. Among airmen the under 18 age group consists of apprentices and boys who serve at home only, and very few of the age group 18 and 19 serve abroad. Officers and cadets are shown in one group owing to the smallness of the numbers if divided into age groups.

27. (i) A consideration of the incidence of all disabilities in all units shows that the figure for the airman group, 406 per 1,000, is higher than that for the officer and cadet group, 389 per 1,000. In both cases the incidence is lower than that of 1936 when the figures were 393 per 1,000 for officers and cadets and for airmen 444 per 1,000. The incidence of disease is higher among airmen, 353 per 1,000 as compared with 307 per 1,000 for officers and cadets. For injury, however, the incidence is higher in the officer and cadet group, being 81 per 1,000 as compared with 53 per 1,000 in the airman group.

(ii) In analysing the incidence of all disabilities among the age groups of airmen, it is observed that the largest numbers of disabilities occur in the youngest age groups, and the smallest numbers in the four oldest age groups.

(iii) The decrease in disease among airmen under 18, noted in 1936, is again apparent, the figure having fallen from 794 per 1,000 in 1936, to 711. In comparison with the force at home the disease and injury incidences in all airman groups abroad are higher, while for the officer group, injuries occur more frequently at home. The highest figures for airmen are found in the age groups 20 and 21, 22 and 23, and 24 and 25 with incidences of 63, 67 and 66 per 1,000.

Trade Groups

28. Table VIII, page 22, analyses by trade groups the incidence of sickness, divided into injury and disease, the latter sub-divided into groups of diseases which are the chief cause of medical non-effectiveness.

29. (i) The highest incidence for all disabilities occurs in the apprentices and boys group with 649·8 per 1,000. This, however, despite a large increase in the number of cases of influenza, is a

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reduction of 70·3 per 1,000 from the figure for 1936. A decrease is again noticeable in this group in the incidence of upper air passage infections—170·6 per 1,000 in 1937, compared with 276·0 per 1,000 in 1936 and 514·2 per 1,000 in 1935. The groups having the next highest incidences for all disabilities are—aircrafthands (490·5 per 1,000), workshop workers (447·8 per 1,000), drivers and open-air workers (411·2 per 1,000), and officers, cadets and airmen pilots (374·2 per 1,000). The lowest all disabilities incidences are found in the metal workers group (295·3 per 1,000) and fitters group (296·9 per 1,000).

(ii) The highest incidences for injuries are found in the officers, cadets and airmen pilot group (82·3 per 1,000), followed by drivers and open-air workers (75·2 per 1,000), workshop workers (73·5 per 1,000) and wireless operators, riggers and armourers (62·7 per 1,000). These groups all show increases over the figures for 1936, but in the remaining groups there has been a decrease. The incidence of injury among apprentices and boys, which fell from 57·3 per 1,000 in 1935 to 43·9 in 1936, again shows a reduction to 41·3 per 1,000. The lowest incidences occur in the apprentices and boys (41·3 per 1,000) and other skilled workers (32·1 per 1,000).

(iii) The apprentices and boys group shows the highest incidence in diseases as a whole, but the figure, 608·5 per 1,000, is less than that for 1936 by 67·7 per 1,000. The lowest incidences are found in the fitters and metal workers groups—249·0 per 1,000 and 248·5 per 1,000. In the disease groups, cases of influenza for the total force have risen from 20·9 per 1,000 in 1936 to 72·4 per 1,000, there having been an increase in all groups. The highest incidence is noted in the apprentices and boys group (185·0 per 1,000) and the lowest in the drivers and open-air workers group (30·0 per 1,000). Upper air passage infections, as in previous years, are more common among apprentices and boys, though there has been a reduction of 105·4 per 1,000 on the figure for 1936 and of 343·6 per 1,000 since 1935. The falling-off in the incidence of this group of diseases has been almost general, only the officers, cadets and airman pilots, and workshop workers groups showing little change. As in former years, the low venereal disease incidence in the officers, cadets and airman pilots group is noticeable; the highest incidence occurs in the drivers and open-air workers group, followed by workshop workers and clerks and office workers. For respiratory diseases the aircraft-hands, workshop workers and other skilled workers groups have the highest figures, though, with the exception of the other skilled workers and workshop workers groups, there has been a fall in all groups, this being particularly noticeable among the metal workers, where the incidence fell from 20·4 per 1,000 in 1936 to 11·2 per 1,000. With the exception of a very slight increase for workshop workers there has been a general reduction in digestive diseases. The highest incidences are found in the groups workshop workers (37·8 per 1,000),

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aircrafthands (32·8 per 1,000) and officers, cadets and airman pilots (31·1 per 1,000), while the lowest incidences occur in the groups apprentices and boys (19·7 per 1,000), wireless operators, riggers and armourers (21·6 per 1,000) and fitters (22·6 per 1,000).

Sickness in Various Groups of Units

30. The incidence of sickness, showing disease and injury for different groups of units in the total force and the force at home and abroad, will be found in Table IX, page 23.

31. For the total force, as in previous years, sickness is lowest in flying units, the disease incidence at 265·1 per 1,000 being markedly so. The injury incidence is highest in the miscellaneous units and in flying units, with 62·5 and 61·8 per 1,000. Flying units show the highest incidence of deaths, 6·1 per 1,000; of these, injury is responsible for 5·5 per 1,000. The invaliding rate is highest in miscellaneous units at 8·1 per 1,000. This circumstance may in part be explained by the fact that in this group are included personnel depôts to which newly-joined recruits are sent. During the preliminary training a number of these recruits are discharged or invalided for various reasons, mostly on grounds of temperamental instability or undisclosed history of " fits ". The average duration of each case in days varies little in the different groups of units.

32. Comparing the groups of units at home and abroad, the incidence of sickness in flying units is markedly higher abroad, the incidence of disease being nearly double. In the other groups the incidence of sickness is not markedly different, though the figure for injury is higher abroad.

Fleet Air Arm (Royal Air Force Personnel)

33. (i) The incidence rates of sickness, deaths and final invalidings of the Fleet Air Arm are liable to fluctuate, as the average strength, 1,177, is small. For 1937 the incidence of all cases of sickness has increased from 506 per 1,000 in 1936 to 572 per 1,000, and if cases of not more than 48 hours' duration are excluded, the incidence, at 387 per 1,000, is also higher. Deaths, at 13·6 per 1,000, have risen from 6·9 in 1936, while the final invaliding rate remains practically unchanged at 2·5 per 1,000, as compared with a figure of 5·6 per 1,000 for the whole force. Transfers from overseas to the United Kingdom for medical reasons amounted to 9·9 per 1,000.

(ii) Including cases of not more than 48 hours' duration, the number of sick daily at 18·1 per 1,000 and the average number of days' sickness per head at 6·6 have increased slightly, though the average duration of each case has decreased from 12 days to 11.

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(iii) If cases of not more than 48 hours' duration are excluded, the number sick daily and the average number of days sickness per head have increased, while the average duration of each case has decreased by 2 days.

Physical efficiency of serving officers, cadets and airman pilots

34. (i) In the general duties branch, where the personnel are liable for flying duties as pilot, 98 per cent. of the officers were fit for full flying duties at home and abroad. This figure is the highest yet recorded. Of those under 30 years of age, nearly 99 per cent. were fit for full flying duties, and of those over this age, (excluding those in sub-para. (iii), 96 per cent. were fit for full flying duties. Tables X and XI on pages 24 and 25 analyse the responses to the standard physical efficiency tests.

(ii) Amongst those categorised as unfit for full flying duties, 33 per cent. were fit for full flying duties at home, 31 per cent. for restricted flying duties at home and abroad, and 17 per cent. for restricted duties at home. Thus 81 per cent. of those unfit for full flying duties at home and abroad were fit for some form of flying duty. The restrictions normally apply to duration and altitude of flight, aerobatics or type of aircraft to be piloted.

(iii) Certain officers, in whom, on account of age or special appointment, fitness for flying is not essential, were also examined, and of these, 76 per cent. were fit for full flying duties and 12 for limited flying duties, making a total of 88 per cent. fit as pilots of aircraft. Six per cent. were fit for full ground duties at home and abroad, and 6 per cent. fit for ground duties at home only. Compared with 1936, the figure 88 per cent., fit as pilots of aircraft has improved by 4 per cent.

(iv) Of the cadets, only 1 was unfit for full flying duties. Tables X and XI (pages 24 and 25) analyse the responses of the cadets to the standard physical efficiency tests.

(v) Of the airman pilots, all but 3 were fit for full flying duties, and 2 of these were fit for full flying duties at home.

(vi) Of the officers of the other branches who must be fit for general service and to fly as passengers, 96 per cent. reached this standard and 3 per cent. were fit for full duties at home only. The remaining 1 per cent. is made up of those unfit for flying or temporarily unfit. These figures remain as in 1936.

Princess Mary's Royal Air Force Nursing Service

35. During 1937 the average strength of the Branch was 125. 41 members—31 at home and 10 abroad—were admitted to hospital, representing 956 days' sickness, or an average of 7·64 days

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per member compared with 5·08 in 1936 and 7·2 in 1935. The average number of sick daily was 2·6 in 1937 compared with 1·6 in 1936 and 2·13 in 1935. Two members were invalided from abroad to the United Kingdom.

Nosological Tables

36. Table XII, page 26, is the chief nosological table of the report, analysing the incidence of diseases, injuries, deaths and invaliding in the force at home, abroad and as a whole. Table XV, page 49, analyses in greater detail those diseases and injuries (marked with an asterisk in Table XII) which were responsible for the majority of total sickness in the principal commands abroad. Figures for the Fleet Air Arm which are shown separately in Table I are included in the home and abroad figures, as appropriate, in Table XII. The heading " no appreciable disease " includes all cases, except mental and epileptic, which were admitted to hospital or sick quarters, and in which no diagnosis of injury or disease was made. The new heading " observation or special examination " has been introduced to cover those cases discharged from hospital and recommended re-examination at intervals as a precautionary measure, though not actually at the time suffering from any disease.

37. The principal causes of non-effectiveness in the total force during 1937, with the average number of sick daily for each cause, are shown below, with the figures for 1936, 1935 and 1934 for comparison.

	Average number of sick daily (excluding cases of not more than 48 hours' duration).			
	1937	1936	1935	1934
Injuries	163·5	140·1	127·8	124·0
Influenza (including influenzal pneumonia)	86·9	18·0	9·8	9·7
Gonorrhoea	83·4	61·2	51·9	45·5
Upper air passage infections (excluding tonsillitis) ..	51·3	63·3	40·9	24·4
Tonsillitis	41·3	41·7	29·8	25·2
Rheumatism, acute ..	27·3	27·2	14·7	4·2
Mumps	23·5	3·6	3·4	1·3
Appendicitis	21·8	24·5	17·0	16·7
Malaria	16·4	15·3	13·3	15·9
Impetigo contagiosa ..	15·4	10·8	6·6	5·0
Hernia	14·4	11·2	5·6	5·6
Infections of areolar tissue (boils, abscess, carbuncle, cellulitis)	33·2	32·5	20·1	20·1

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	Average number of sick daily (excluding cases of not more than 48 hours' duration).			
Diseases of joints	13·9	11·7	10·8	10·5
Otitis media, acute	13·6	15·5	9·4	3·2
Venereal disease (excluding gonorrhoea)	13·1	13·3	7·8	8·1
Bronchitis	12·9	9·6	8·1	6·4
Tuberculosis (all forms) ..	12·6	11·9	4·7	9·9
Urethritis (non-venereal) ..	12·4	12·4	10·9	7·2
Pleurisy	12·4	11·5	6·7	4·7
Scarlet fever	11·8	10·2	7·9	2·8
Tinea cruris	11·7	6·8	3·8	3·0
Psychoneuroses	11·3	8·3	7·3	5·7
Enteritis acute, and gastro-enteritis	9·5	11·3	8·1	8·7
Pneumonia	9·0	8·4	6·8	5·4
Phlebotomus fever	8·7	4·9	5·4	5·7
Measles	8·1	8·6	0·6	1·1

38. The following table records certain causes of medical non-effectiveness, showing the number sick daily in the force at home and abroad.

	Average number of sick daily (excluding cases of not more than 48 hours' duration).	
	Home	*Abroad*
Injuries	126·8	36·7
Influenza (including influenzal pneumonia)	84·6	2·3
Gonorrhoea	50·2	33·2
Upper air passage infections (excluding tonsillitis) ..	43·2	8·1
Tonsillitis, acute	35·5	5·8
Rheumatism, acute	26·3	1·0
Appendicitis	17·1	4·7
Pulmonary tuberculosis ..	4·6	4·1
Venereal disease (excluding gonorrhoea)	4·3	8·8
Malaria	1·9	14·5
Phlebotomus fever	—	8·7

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Table II.—Sickness, Deaths and Invalids.

Disease group.	1937.			Percentage of total.								
				Cases.			Deaths.			Invalids.		
	Cases.	Deaths.	Invalids.	1937.	1929–36.	1921–28.	1937.	1929–36.	1921–28.	1937.	1929–36.	1921–28.
Dysentery	54	1	—	0·2	*0·6*	*1·2*	0·4	*0·5*	*0·3*	—	*0·1*	*0·1*
Enteric group ..	10	—	—	0·0	*0·1*	*0·3*	—	*0·9*	*2·5*	—	—	—
Influenza	4,288	—	—	17·9	*6·5*	*5·6*	—	—	*0·3*	—	—	—
Malaria	365	—	—	1·5	*2·9*	*7·1*	—	*0·9*	*1·0*	—	—	*0·2*
Pneumonia	93	6	—	0·4	*0·4*	*0·5*	2·5	*3·4*	*4·6*	—	*0·2*	—
Pyrexia of unknown origin	76	—	—	0·3	*0·4*	*0·5*	—	—	*0·1*	—	—	—
Phlebotomus fever ..	431	—	—	1·8	*2·5*	*6·4*	—	—	—	—	—	—
Tuberculosis ..	59	6	49	0·2	*0·3*	*0·3*	2·5	*2·0*	*3·8*	14·7	*15·3*	*13·4*
Venereal diseases ..	548	—	—	2·3	*2·8*	*4·9*	—	*0·0*	—	—	*0·4*	*0·8*
Pyaemia and septicaemia	11	5	—	0·0	*0·1*	*0·0*	2·1	*2·6*	*2·1*	—	*0·1*	—
Other diseases due to infection	7,605	9	20	31·8	*32·8*	*26·6*	3·7	*3·8*	*1·4*	6·0	*4·4*	*2·1*
Contacts and carriers (patients in hospital or sick quarters) ..	126	—	—	0·5	*0·5*	*0·4*	—	—	—	—	*0·2*	*0·0*
Nervous system and brain	371	3	123	1·6	*1·6*	*1·9*	1·2	*1·9*	*2·4*	37·0	*29·1*	*25·2*
Eye	181	—	10	0·8	*1·1*	*1·1*	—	—	—	3·0	*5·1*	*8·6*
Ear and nose ..	718	1	21	3·0	*3·0*	*1·8*	0·4	*0·2*	*0·1*	6·3	*5·9*	*11·2*
Circulatory system..	167	7	12	0·7	*0·9*	*1·2*	2·9	*3·0*	*2·7*	3·6	*7·6*	*8·2*
Lymphatic system ..	25	—	1	0·1	*0·1*	*0·1*	—	*0·4*	*0·1*	0·3	*1·3*	*1·0*
Respiratory system (excluding tuberculosis and pneumonia)	611	1	28	2·6	*2·9*	*2·9*	0·4	*0·9*	*0·8*	8·4	*4·8*	*4·0*
Teeth and gums ..	151	—	—	0·6	*0·6*	*0·6*	—	—	—	—	*0·1*	*0·2*
Digestive system ..	1,632	11	14	6·8	*8·9*	*8·0*	4·5	*4·2*	*5·0*	4·2	*3·6*	*3·5*
Disorders of nutrition and metabolism	16	—	5	0·1	*0·1*	*0·0*	—	*0·2*	*0·2*	1·5	*1·6*	*0·6*
Generative system ..	366	—	—	1·5	*1·9*	*1·8*	—	—	—	—	*0·2*	*0·2*
Organs of locomotion	509	—	22	2·1	*2·8*	*2·9*	—	—	—	6·6	*7·2*	*10·3*
Areolar tissue or skin	1,514	—	3	6·3	*5·8*	*6·2*	—	*0·1*	—	0·9	*0·9*	*1·0*
Urinary organs ..	276	1	9	1·2	*1·0*	*0·6*	0·4	*1·0*	*0·7*	2·7	*3·8*	*2·6*
Tumours and cysts..	85	5	4	0·4	*0·4*	*0·5*	2·1	*2·4*	*1·2*	1·2	*0·9*	*0·4*
Poisons	74	—	—	0·3	*0·5*	*0·3*	—	*1·3*	*0·9*	—	*0·1*	*0·0*
Debility	43	—	—	0·2	*0·2*	*0·5*	—	—	—	—	—	*0·3*
Other diseases ..	268	—	—	1·1	*1·0*	*0·7*	—	*0·1*	—	—	*0·1*	*0·1*
Total: all diseases ..	20,673	56	321	86·3	*82·7*	*84·9*	23·1	*29·9*	*30·3*	96·7	*93·0*	*94·0*
Total: all injuries ..	3,280	187	11	13·7	*17·3*	*15·1*	76·9	*70·1*	*69·7*	3·3	*7·0*	*6·0*
Total: all disabilities	23,953	243	332	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*	100·0	*100·0*	*100·0*

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TABLE III.—SICKNESS AT HOME AND ABROAD, ANALYSED BY DISEASE AND INJURY GROUPS.

Disease group.	Case incidence per 1,000 of strength.									Average duration of each case (days).								
	Home.			Abroad.			Total Force.			Home.			Abroad.			Total Force.		
	1937.	Average 1929–36.	Average 1921–28.	1937.	Average 1929–36.	Average 1921–28.	1937.	Average 1929–36.	Average 1921–28.	1937.	Average 1929–36.	Average 1921–28.	1937.	Average 1929–36.	Average 1921–28.	1937.	Average 1929–36.	Average 1921–28.
Diseases caused by infection ..	218·5	*178·9*	*171·4*	275·3	*288·4*	*452·9*	228·6	*209·1*	*249·2*	12	*13*	*17*	15	*15*	*16*	13	*14*	*16*
Contacts and carriers (patients in hospital or sick quarters) ..	2·5	*2·6*	*2·3*	0·4	*1·5*	*0·8*	2·1	*2·3*	*1·9*	11	*16*	*13*	10	*16*	*18*	11	*16*	*14*
Effects of parasites	0·7	*1·0*	*0·6*	1·4	*2·8*	*2·4*	0·8	*1·5*	*1·1*	12	*19*	*12*	22	*21*	*23*	15	*20*	*18*
Diseases of nervous system and brain	6·0	*5·8*	*7·9*	7·7	*9·4*	*12·0*	6·3	*6·8*	*9·0*	30	*33*	*33*	47	*44*	*54*	34	*37*	*40*
Diseases of the eye	2·8	*4·1*	*4·9*	4·4	*5·4*	*5·4*	3·1	*4·5*	*5·1*	17	*18*	*19*	20	*22*	*32*	18	*20*	*23*
Diseases of the ear and nose ..	10·8	*10·5*	*7·3*	18·1	*18·1*	*11·7*	12·1	*12·6*	*8·6*	23	*21*	*21*	14	*15*	*23*	21	*19*	*22*
Diseases of the circulatory system ..	2·7	*3·6*	*4·3*	3·4	*3·8*	*8·4*	2·8	*3·7*	*5·4*	28	*30*	*31*	38	*36*	*44*	30	*32*	*37*
Diseases of the lymphatic and ductless glands	0·3	*0·4*	*0·3*	0·8	*0·6*	*0·3*	0·4	*0·4*	*0·3*	28	*40*	*45*	51	*52*	*60*	35	*45*	*49*
Diseases of the respiratory system ..	10·1	*11·0*	*12·7*	11·3	*15·1*	*16·1*	10·3	*12·1*	*13·6*	22	*19*	*18*	14	*17*	*19*	20	*18*	*18*
Diseases of the teeth and gums ..	2·6	*2·7*	*2·8*	2·2	*2·8*	*3·1*	2·5	*2·7*	*2·9*	9	*11*	*10*	9	*11*	*10*	9	*11*	*10*
Diseases of the digestive system ..	24·4	*35·4*	*31·8*	42·3	*43·3*	*51·0*	27·6	*37·6*	*37·1*	22	*20*	*21*	18	*20*	*19*	21	*20*	*20*
Diseases due to disorders of nutrition or metabolism	0·2	*0·4*	*0·2*	0·6	*0·3*	*0·2*	0·3	*0·4*	*0·2*	35	*34*	*31*	32	*50*	*35*	34	*38*	*32*
Diseases of the generative system ..	5·1	*6·3*	*6·8*	11·1	*12·9*	*11·9*	6·2	*8·1*	*8·2*	25	*25*	*22*	20	*25*	*21*	23	*25*	*22*
Diseases of the organs of locomotion	8·6	*10·8*	*12·6*	8·6	*14·1*	*15·5*	8·6	*11·7*	*13·4*	19	*23*	*20*	29	*21*	*20*	21	*22*	*20*
Diseases of the areolar tissue or skin	24·8	*24·3*	*31·2*	29·1	*24·7*	*23·5*	25·6	*24·4*	*29·1*	16	*17*	*17*	19	*16*	*17*	17	*16*	*17*
Diseases of the urinary organs ..	4·1	*3·9*	*2·3*	7·2	*5·6*	*4·1*	4·7	*4·3*	*2·8*	26	*32*	*32*	39	*32*	*38*	29	*32*	*34*
Tumours and cysts	1·5	*1·7*	*2·5*	1·1	*1·9*	*2·6*	1·4	*1·8*	*2·5*	30	*23*	*18*	22	*31*	*25*	29	*25*	*20*
Poisons	1·0	*1·7*	*0·8*	2·3	*4·0*	*3·4*	1·2	*2·3*	*1·5*	7	*7*	*8*	20	*9*	*13*	11	*8*	*11*
All other diseases	4·3	*3·3*	*3·5*	5·0	*4·0*	*7·1*	4·5	*3·5*	*4·5*	14	*10*	*12*	13	*12*	*20*	14	*11*	*15*
All diseases	331·0	*308·5*	*306·1*	432·3	*458·8*	*632·3*	349·0	*350·0*	*396·3*	15	*16*	*18*	17	*17*	*18*	15	*17*	*18*
General injuries	7·3	*7·7*	*6·0*	12·4	*9·4*	*14·1*	8·2	*8·1*	*8·2*	20	*29*	*19*	20	*20*	*16*	20	*26*	*18*
Local injuries	44·2	*62·1*	*58·8*	61·0	*72·3*	*71·9*	47·2	*65·0*	*62·4*	18	*20*	*21*	17	*17*	*20*	18	*19*	*21*
All injuries	51·4	*69·8*	*64·8*	73·5	*81·8*	*86·0*	55·4	*73·1*	*70·6*	18	*21*	*21*	17	*17*	*19*	18	*20*	*20*
All disabilities	382·4	*378·3*	*370·9*	505·8	*540·6*	*718·3*	404·4	*423·1*	*466·9*	15	*17*	*19*	17	*17*	*18*	16	*17*	*18*

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TABLE IV.—PULMONARY TUBERCULOSIS, 1937.

Age.	Incidence per 1,000 of strength.	Trade Group.	Incidence per 1,000 of strength.	Length of service.	Incidence per 1,000 of strength.	Group of units.	Incidence per 1,000 of strength.
Under 20 ..	0·4	Officers, cadets and airman pilots.	0·3	Under 1 year ..	0·4	Flying units ..	0·5
20–24 ..	0·7	Apprentices	0·3	1 year and under 5 years.	0·7	Depots	0·7
25–29 ..	1·0	Aircrafthands	0·5	5 years and under 10 years.	0·9	Miscellaneous units	1·3
30–34 ..	1·9	Clerks and office workers ..	1·3				
35–39 ..	0·3	Wireless operators, riggers and armourers.	1·0	10 years and over	1·0		
40–44 ..	0·6						
45 and over	—	Drivers and open-air workers.	—				
		Fitters and mates	0·8				
		Workshop workers	1·3				
		Metal workers	—				
		Other skilled trades	1·2				
Total ..	0·7	Total	0·7	Total ..	0·7	Total ..	0·7

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TABLE V.—VENEREAL DISEASE.

Disease.	Home.				Abroad.				Total force.			
	No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.		No. of cases.	Case incidence per 1,000 of strength.	Average.	
			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).			No. sick daily.	Duration of case (days).
Gonorrhoea—acute ..	243	5·0	48·2	73	150	14·2	30·9	75	393	6·6	79·1	74
relapse ..	7	0·1	1·3	67	7	0·7	1·6	82	14	0·2	2·9	74
sequelae ..	4	0·1	0·7	68	6	0·6	0·7	41	10	0·2	1·4	52
Total ..	254	5·2	50·2	72	163	15·5	33·2	74	417	7·0	83·4	73
Syphilis—admissions :												
Primary	20	0·4	2·4	44	14	1·3	1·6	42	34	0·6	4·0	43
Secondary	5	0·1	0·7	53	2	0·2	0·3	55	7	0·1	1·0	53
Tertiary	6	0·1	0·5	28	1	0·1	0·2	85	7	0·1	0·7	36
Congenital	1	0·0	0·0	17	1	0·1	0·4	163	2	0.0	0·4	90
For further treatment	3	0·1	0·2	24	1	0·1	0·0	3	4	0·1	0·2	18
Total	35	0·7	3·8	40	19	1·8	2·6	50	54	0·9	6·4	44
Soft chancre	5	0·1	0·5	33	72	6·8	6·2	31	77	1·3	6·7	32
All venereal diseases :												
1937	294	6·0	54·5	68	254	24·1	42·0	60	548	9·2	96·5	64
1936	*183*	*5·1*	*32·5*	*65*	*252*	*21·0*	*42·0*	*61*	*435*	*9·0*	*74·5*	*63*
1935	*141*	*5·6*	*25·2*	*65*	*192*	*19·5*	*34·5*	*66*	*333*	*9·5*	*59·7*	*65*
1934	*141*	*6·6*	*22·8*	*59*	*162*	*17·6*	*30·7*	*69*	*303*	*9·9*	*53·5*	*65*
1933	*158*	*7·2*	*27·2*	*63*	*197*	*21·9*	*29·8*	*55*	*355*	*11·5*	*57·0*	*59*
1932	*169*	*7·3*	*28·7*	*62*	*191*	*21·6*	*31·2*	*60*	*360*	*11·3*	*59·9*	*61*
1931	*245*	*10·4*	*42·0*	*63*	*231*	*25·8*	*34·7*	*55*	*476*	*14·7*	*76·7*	*59*
1930	*293*	*12·7*	*50·6*	*63*	*224*	*25·4*	*30·2*	*49*	*517*	*16·1*	*80·6*	*57*
1929	*250*	*11·0*	*37·8*	*55*	*216*	*25·5*	*32·9*	*56*	*466*	*15·0*	*70·7*	*55*
1928	*302*	*13·5*	*44·6*	*54*	*254*	*31·3*	*34·4*	*50*	*556*	*18·2*	*79·0*	*52*
1927	*269*	*12·5*	*40·8*	*55*	*259*	*30·1*	*31·6*	*45*	*528*	*17·5*	*72·4*	*50*
1926	*357*	*14·9*	*59·5*	*61*	*208*	*23·0*	*31·8*	*56*	*565*	*17·1*	*91·3*	*59*
1925	*400*	*16·8*	*57·0*	*52*	*256*	*27·9*	*36·4*	*52*	*656*	*19·9*	*93·4*	*52*
1924	*432*	*19·2*	*59·3*	*50*	*272*	*30·0*	*44·0*	*59*	*704*	*22·3*	*103·3*	*54*
1923	*482*	*23·8*	*64·8*	*49*	*299*	*31·4*	*42·3*	*52*	*781*	*26·2*	*107·2*	*50*
1922	*525*	*24·9*	*76·1*	*53*	*263*	*33·5*	*34·4*	*48*	*788*	*27·2*	*110·5*	*51*
1921	*709*	*32·3*	*94·2*	*48*	*314*	*49·2*	*52·2*	*61*	*1,023*	*36·1*	*146·4*	*52*

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Table VI.—Injuries, 1937.

—	Number of cases.							
	Aircrew.	Athletics.	Flying.	Motor transport.	Starting motor engines.	Other causes.	Total.	Percentage of total cases.
On duty	15	—	289	39	20	391	754	*23*
Organized games ..	—	1,112	—	—	—	—	1,112	*34*
Off duty	1	197	6	407	4	728	1,343	*42*
Not stated	—	2	—	—	—	21	23	*1*
Total	16	1,311	295	446	24	1,140	3,232	*100*
Nature of injury:								
General	3	12	199	141	—	81	436	*14*
Head or face ..	2	185	51	149	1	214	602	*18*
Trunk	1	83	9	16	—	80	189	*6*
Upper extremity .	8	142	8	48	18	231	455	*14*
Lower extremity .	2	889	28	92	5	534	1,550	*48*
Total	16	1,311	295	446	24	1,140	3,232	*100*
Deaths:								
On duty	—	—	142	1	—	4	147	*80*
Organized games	—	1	—	—	—	—	1	*1*
Off duty	—	3	3	15	—	13	34	*19*
Total	—	4	145	16	—	17	182	*100*

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TABLE VII.—DISEASE AND INJURY—ANALYSED BY AGE GROUPS, 1937.

Age last birthday.	Case incidence per 1,000 of Strength.								
	Disease.			Injury.			All disabilities.		
	Home.	Abroad.	All units.	Home.	Abroad.	All units.	Home.	Abroad.	All units.
Airmen :—									
Under 18	711	—	711	45	—	45	756	—	756
18 and 19	356	*	357	49	*	50	405	*	406
20 and 21	332	534	360	56	100	63	388	634	423
22 and 23	309	450	345	60	85	67	369	535	412
24 and 25	248	431	311	63	71	66	311	502	377
26 and 27	243	468	304	50	71	56	293	539	360
28 and 29	236	380	256	43	55	45	279	435	301
30 to 34	204	354	234	28	57	34	232	411	268
35 to 39	207	338	239	24	42	28	231	380	267
40 and over	249	*	278	17	*	23	266	*	301
Airmen : All ages	336	435	353	48	73	53	384	508	406
Officers and Cadets : All ages ..	280	407	307	83	77	81	363	484	389
All ranks	331	432	349	51	74	55	382	506	404

* Not calculated : strength very small.

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TABLE VIII.—INCIDENCE OF CERTAIN DISEASES IN THE VARIOUS TRADE GROUPS, 1937

Trade group.	Incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Officers, cadets and airman pilots	60·3	63·5	6·8	9·7	31·1	120·5	291·9	82·3	374·2
Aircrafthands	84·1	107·4	9·7	13·7	32·8	186·0	433·7	56·8	490·5
Apprentices and boys	185·0	170·6	0·5	8·5	19·7	224·2	608·5	41·3	649·8
Wireless operators, riggers, and armourers	39·8	47·1	10·9	10·1	21·6	142·6	272·1	62·7	334·8
Clerks and office workers	49·8	50·6	12·7	10·3	30·0	140·3	293·7	45·1	338·8
Drivers and open air workers	30·0	53·1	21·6	7·3	30·5	193·5	336·0	75·2	411·2
Fitters	50·5	47·6	9·0	7·8	22·6	111·5	249·0	47·9	296·9
Metal workers	44·8	47·9	7·1	11·2	24·5	113·0	248·5	46·8	295·3
Workshop workers	67·1	65·5	13·8	13·6	37·8	176·5	374·3	73·5	447·8
Other skilled workers	57·8	63·4	10·4	12·1	29·3	137·3	310·3	32·1	342·4
All groups	72·4	77·0	9·2	10·3	27·6	152·5	349·0	55·4	404·4

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TABLE IX.—SICKNESS IN DIFFERENT TYPES OF UNIT, 1937.

Type of unit.		Home.					Abroad.					Total.				
		Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).	Incidence per 1,000 of strength.				Average duration of case (days).
		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.		Cases.	Deaths.	Invalided out of service.	No. sick daily.	
Flying units ..	Disease	233·8	0·6	4·1	9·9	15	429·9	0·6	3·1	20·6	18	265·1	0·6	3·9	11·5	16
	Injury	57·2	5·4	0·2	2·7	18	85·6	5·7	0·2	4·3	18	61·8	5·5	0·2	3·1	18
	Total	291·0	6·0	4·3	12·6	16	515·5	6·3	3·3	24·9	18	326·9	6·1	4·1	14·6	16
Depôts (store and repair), ground schools and armoured car companies.	Disease	415·9	1·1	6·6	16·6	15	396·5	0·9	3·2	17·9	17	412·4	1·0	6·0	16·8	15
	Injury	35·9	0·2	—	2·0	20	55·0	1·6	0·6	2·8	19	39·4	0·5	0·1	2·1	20
	Total	451·8	1·3	6·6	18·6	15	451·5	2·5	3·8	20·7	17	451·8	1·5	6·1	18·9	15
Miscellaneous units, (headquarters, personnel depôts, etc.)	Disease	441·3	1·4	9·1	18·3	15	477·5	1·8	3·6	23·5	18	448·9	1·5	8·0	19·4	16
	Injury	59·3	1·1	0·2	2·8	18	74·3	4·0	—	3·0	15	62·5	1·7	0·1	2·9	17
	Total	500·6	2·5	9·3	21·1	15	551·8	5·8	3·6	26·5	18	511·4	3·2	8·1	22·3	16
All units	Disease	331·0	0·9	5·9	13·6	15	432·3	1·0	3·2	20·6	17	349·0	0·9	5·4	14·8	15
	Injury	51·4	3·0	0·2	2·6	18	73·5	4·0	0·3	3·5	17	55·4	3·2	0·2	2·8	18
	Total	382·4	3·9	6·1	16·2	15	505·8	5·0	3·5	24·1	17	404·4	4·1	5·6	17·5	16

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TABLE X.—AVERAGE RESULTS OF TESTS OF SERVING OFFICERS OF THE GENERAL DUTIES BRANCH, CADETS AND AIRMAN PILOTS FIT FOR FLYING DUTIES: 1937.

—	Age Group.	Age.	Weight.	Time breath held.	Expiratory force.	Fatigue test.	Pulse rate per minute.				Pulse time taken to return to normal.	Systolic pressure.	Pulse pressure
							Sitting.	Standing (1st 5 secs.)†	Standing (lowest steady rate).‡	After exercise.			
OFFICERS.		Yrs.	Lb.	Secs.	Mm. Hg.	Secs.					Secs.	Mm. Hg.	Mm. Hg.
At home ..	Under 25	22·1	154·5	81·4	155·0	66·2	71·6	88·2	77·8	101·9	26·4	124·1	48·9
	25–30 ..	27·3	158·6	88·0	168·0	68·0	71·2	87·8	77·5	100·5	25·5	124·6	48·6
	31 and over	35·5	163·6	83·6	175·7	68·2	71·7	86·8	78·0	99·3	25·4	124·9	47·1
	All ages ..	25·5	157·0	83·5	161·6	67·0	71·5	87·9	77·8	101·2	26·0	124·3	48·5
Abroad ..	Under 25	22·9	157·1	83·6	152·2	67·2	70·9	88·1	77·8	101·0	27·1	123·4	49·7
	25–30 ..	27·8	159·1	85·4	165·8	69·0	70·9	87·1	77·6	99·8	26·0	124·6	48·8
	31 and over	35·0	159·4	83·4	168·3	64·0	70·9	85·4	77·8	98·0	24·0	122·8	46·3
	All ages ..	26·7	158·2	84·1	159·6	67·2	70·9	87·3	77·7	100·1	26·2	123·7	48·8
Total force ..	Under 25	22·2	155·0	81·7	154·6	66·4	71·4	88·2	77·8	101·8	26·5	124·0	49·1
	25–30	27·4	158·7	87·4	167·5	68·2	71·2	87·6	77·5	100·3	25·6	124·6	48·7
	31 and over	35·4	162·6	83·6	174·0	67·2	71·5	86·5	77·9	99·0	25·1	124·4	46·9
	All ages ..	25·7	157·2	83·6	161·3	67·0	71·4	87·8	77·7	100·9	26·0	124·2	48·6
CADETS.	Under 25	19·9	151·9	84·6	153·7	67·4	67·9	86·7	75·6	95·6	25·4	120·7	46·4
AIRMAN PILOTS													
At home ..	Under 25	23·1	150·5	81·7	156·4	66·8	71·8	88·1	77·3	102·3	25·0	127·4	51·1
	25–30 ..	27·6	151·5	83·9	165·6	66·2	72·7	88·4	78·2	102·1	26·2	127·5	50·1
	31 and over	34·1	157·9	80·6	172·6	65·3	72·5	87·6	78·2	99·6	27·3	126·8	49·4
	All ages ..	26·2	151·6	82·7	162·1	66·4	72·2	88·2	77·8	102·0	25·7	127·4	50·5
Abroad ..	Under 25	23·5	149·3	95·7	141·6	70·9	72·5	91·5	79·4	103·8	29·8	125·9	50·1
	25–30 ..	26·7	148·5	87·8	144·6	69·5	71·2	88·5	77·7	101·6	30·0	124·0	47·7
	31 and over	*	*	*	*	*	*	*	*	*	*	*	*
	All ages ..	25·0	149·0	92·5	143·3	70·2	72·0	90·3	78·8	103·0	29·7	125·1	49·1
Total force ..	Under 25	23·2	150·2	85·0	152·8	67·8	71·9	88·9	77·8	102·7	26·1	127·0	50·8
	25–30 ..	27·5	151·1	84·6	162·3	66·7	72·4	88·4	78·2	102·0	26·8	127·0	49·8
	31 and over	34·1	157·1	80·8	174·3	65·1	72·6	87·7	77·8	99·9	27·0	126·5	49·3
	All ages ..	25·9	151·1	84·5	158·5	67·1	72·2	88·6	78·0	102·2	26·5	126·9	50·2

* Not calculated : number in group too small.

† Not recorded prior to 1933.

‡ Comparable with " pulse rate, standing " of reports for 1932 and earlier years.

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TABLE XI.—RESULTS OF FURTHER TESTS OF OFFICERS OF THE GENERAL DUTIES BRANCH, CADETS AND AIRMAN PILOTS, 1937.

Nature of Test.	Officers.		Cadets (b)	Airman Pilots (c)	Total Officers, Cadets, Airman Pilots.
	Fit for flying duties.	Unfit for flying duties.			
	Percentage.	Percentage.	Percentage.	Percentage.	Percentage.
Tremor—absent ..	42	41	41	36	40
,, present ..	58	59	59	64	60
Self-balancing—steady	96	83 .	95	96	96
,, ,, unsteady	4	17	5	4	4
Knee jerks—normal ..	89	83	84	89	88
,, ,, abnormal	11	17	16	11	12
Vision—6/6 both eyes	98	91	99	99	98
,, 6/6 and 6/9, 6/9 and 6/9.	1	3	1	1	1
,, over 6/9 in either eye.	1	5	1	(a)	1
Nasopharynx—normal	98	98	98	98	98
,, abnormal	2	2	2	2	2
Teeth—no treatment required.	97	91	98	93	96
,, treatment required.	3	9	2	7	4
Pyorrhoea—absent ..	(a)	100	100	100	(a)
,, present ..		—	—	—	

(a) Applicable to less than 0·5 per cent. of numbers examined.

(b) The records for one unfit cadet are included.

(c) The records for three unfit airmen are included.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937.

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages. No. sick daily.	Averages. Duration of case.
Diseases caused by Infection.						Days.							Days.						Days.
Diphtheria	22	—	—	0·5	3·0	50	6	1	—	—	0·6	0·7	39	28	1	—	0·5	3·7	48
*Dysentery	3	—	—	0·1	0·6	71	51	1	—	—	4·8	3·0	22	54	1	—	0·9	3·6	24
*Enteric group	—	—	—	—	—	—	10	—	—	—	0·9	1·7	63	10	—	—	0·2	1.7	63
*Enteritis (acute) and gastro-enteritis (acute)	155	—	—	3·2	3·4	8	329	—	—	—	31·2	6·1	7	484	—	—	8·2	9·5	7
*Influenza (including influenzal pneumonia)	4,165	—	—	85·5	84·6	7	123	—	—	—	11·7	2·3	7	4,288	—	—	72·4	86·9	7
Leishmaniasis	2	—	—	0·0	0·2	46	4	—	—	—	0·4	0·8	70	6	—	—	0·1	1·0	62
*Malaria	33	—	—	0·7	1·9	21	332	—	—	—	31·5	14·5	16	365	—	—	6·2	16·4	16
Measles	135	—	—	2·8	8·1	22	—	—	—	—	—	—	—	135	—	—	2·3	8·1	22
Mumps	390	—	—	8·0	23·2	22	6	—	—	—	0·6	0·3	21	396	—	—	6·7	23·5	22
Pneumonia	80	6	—	1·6	7·6	35	13	—	—	—	1·2	1·4	39	93	6	—	1·6	9·0	35
*Pyrexia of unknown origin	24	—	—	0·5	0·6	10	52	—	—	—	4·9	1·4	10	76	—	—	1·3	2·0	10
Rheumatism (acute)	96	1	14	2·0	26·3	100	4	—	—	—	0·4	1·0	90	100	1	14	1·7	27·3	100
Rubella	22	—	—	0·5	0·8	13	—	—	—	—	—	—	—	22	—	—	0·4	0·8	13
*Phlebotomus fever	—	—	—	—	—	—	431	—	—	—	40·9	8·7	7	431	—	—	7·3	8·7	7
Scarlet fever	115	—	—	2·4	11·8	37	—	—	—	—	—	—	—	115	—	—	1·9	11·8	37
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuberculosis.																			
Pulmonary	33	3	30	0·7	4·6	51	10	—	12	10	0·9	4·1	150	43	3	42	0·7	8·7	74
Other	13	3	6	0·3	2·6	74	3	—	1	3	0·3	1·3	155	16	3	7	0·3	3·9	89
*TOTAL—TUBERCULOSIS	46	6	36	0·9	7·2	57	13	—	13	13	1·2	5·4	151	59	6	49	1·0	12·6	78

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Upper air passage infections.																			
Common cold	84	—	—	1·7	1·5	6	68	—	—	—	6·5	0·9	5	152	—	—	2·6	2·4	6
Laryngitis	74	—	—	1·5	1·9	9	7	—	—	—	0·7	0·1	7	81	—	—	1·4	2·0	9
Nasopharyngitis	1,186	—	—	24·4	21·2	7	252	—	—	—	23·9	4·2	6	1,438	—	—	24·3	25·4	6
Quinsy	76	—	—	1·6	2·7	13	19	—	—	—	1·8	0·6	12	95	—	—	1·6	3·3	13
Pharyngitis	579	—	—	11·9	11·7	7	87	—	—	—	8·3	1·3	6	666	—	—	11·2	13·0	7
Rhinitis, catarrhal ..	169	—	—	3·5	2·7	6	34	—	—	—	3·2	0·5	6	203	—	—	3·4	3·2	6
Tonsillitis	1,565	—	—	32.1	35·5	8	294	—	—	—	27·9	5·8	7	1,859	—	—	31·4	41·3	8
Vincent's angina	46	—	—	0·9	1·5	12	19	—	—	—	1·8	0·5	10	65	—	—	1·1	2·0	11
*TOTAL—UPPER AIR PASSAGE INFECTIONS ..	3,779	—	—	77·6	78·7	8	780	—	—	—	74·0	13·9	7	4,559	—	—	77·0	92·6	7
Vaccinia	238	—	—	4·9	4·4	6	1	—	—	—	0·1	0·0	4	239	—	—	4·0	4·4	6
Venereal diseases.																			
Gonorrhœa	254	—	—	5·2	50·2	72	163	—	—	—	15·5	33·2	74	417	—	—	7·0	83·4	73
Syphilis	35	—	—	0·7	3·8	40	19	—	—	—	1·8	2·6	50	54	—	—	0·9	6·4	44
Soft chancre	5	—	—	0·1	0·5	33	72	—	—	—	6·8	6·2	31	77	—	—	1·3	6·7	32
*TOTAL—VENEREAL DISEASES	294	—	—	6·0	54·5	68	254	—	—	—	24·1	42·0	60	548	—	—	9·2	96·5	64

* Analysed in further detail in Table XVI.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937—*continued.*

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Abscess, hand and finger	24	—	—	0·5	0·6	9	7	—	—	—	0·7	0·2	14	31	—	—	0·5	0·8	10
Abscess, other	100	—	—	2·1	3·8	14	21	—	—	1	2·0	0·9	16	121	—	—	2·0	4·7	14
Boils	212	—	—	4·4	4·9	8	83	—	—	—	7·9	2·3	10	295	—	—	5·0	7·2	9
Carbuncles	40	—	—	0·8	1·2	10	15	—	—	—	1·4	0·4	11	55	—	—	0·9	1·6	11
Cellulitis	462	—	—	9·5	13·3	11	210	—	—	1	19·9	5·6	10	672	—	—	11·3	18·9	10
Lymphangitis and lymph-adenitis	81	—	—	1·7	4·1	19	43	—	—	1	4·1	1·5	12	124	—	—	2·1	5·6	16
Osteo-myelitis, periostitis, and osteitis	19	1	1	0·4	1·9	36	4	—	—	2	0·4	1·0	93	23	1	1	0·4	2·9	46
Pyæmia, septicæmia ..	10	4	—	0·2	0·9	33	1	1	—	—	0·1	0·0	6	11	5	—	0·2	0·9	31
Ulcer	9	—	—	0·2	0·5	22	2	—	—	—	0·2	0·3	47	11	—	—	0·2	0·8	26
Other diseases caused by infection	84	5	3	1·7	5·2	23	105	1	2	6	10·0	6·1	21	189	6	5	3·2	11·3	22
TOTAL—DISEASES CAUSED BY INFECTION	10,640	23	54	218·5	353·5	12	2,900	4	15	24	275·3	121·4	15	13,540	27	69	228·6	474·9	13
Contacts and carriers (patients in hospital and sick quarters) ..	122	—	—	2·5	3·8	11	4	—	—	—	0·4	0·1	10	126	—	—	2·1	3·9	11
Effects of parasites ..	32	—	—	0·7	1·0	12	15	—	—	1	1·4	0·9	22	47	—	—	0·8	2·0	15

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Other diseases classified by systems.																		
Diseases of nervous system and brain.																		
Neuritis, localised ..	60	—	1	1·2	4·7	29	19	—	—	1	1·8	1·3	24	79	—	1	1·3	6·0	28
Headache (post-concussion, etc.)	16	—	9	0·3	1·9	43	7	—	—	3	0·7	1·2	64	23	—	9	0·4	3·1	49
Mental diseases	20	—	19	0·4	2·7	49	4	—	7	3	0·4	1·7	158	24	—	26	0·4	4·4	67
Psychoneurosis	98	—	38	2·0	7·2	27	27	—	3	12	2·6	4·1	56	125	—	41	2·1	11·3	33
Epilepsy (including observation cases)	36	—	30	0·7	3·4	35	7	—	1	2	0·7	1·0	50	43	—	31	0·7	4·4	37
Other diseases of nervous system and brain ..	60	3	14	1·2	4·3	26	17	—	1	1	1·6	1·1	25	77	3	15	1·3	5·4	26
TOTAL—DISEASES OF NERVOUS SYSTEM AND BRAIN	290	3	111	6·0	24·2	30	81	—	12	22	7·7	10·5	47	371	3	123	6·3	34·7	34
Diseases of the eye.																			
Infections	107	—	2	2·2	5·3	18	40	—	—	5	3·8	2·0	18	147	—	2	2·5	7·3	18
Other diseases of the eye	28	—	7	0·6	1·0	13	6	—	1	2	0·6	0·5	28	34	—	8	0·6	1·5	16
TOTAL—DISEASES OF THE EYE	135	—	9	2·8	6·3	17	46	—	1	7	4·4	2·5	20	181	—	10	3·1	8·8	18
Diseases of ear and nose.																			
Otitis media, acute ..	199	—	—	4·1	13·0	24	21	—	—	—	2·0	0·6	10	220	—	—	3·7	13·6	23
Otitis media, chronic ..	44	—	12	0·9	4·9	40	9	—	1	4	0·9	1·2	48	53	—	13	0·9	6·1	42
Other diseases of ear and nose	284	1	8	5·8	15·9	20	161	—	—	3	15·3	5·5	13	445	1	8	7·5	21·4	18
TOTAL—DISEASES OF EAR AND NOSE	527	1	20	10·8	33·8	23	191	—	1	7	18·1	7·3	14	718	1	21	12·1	14·1	21

* Analysed in further detail in Table XVI.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937—*continued.*

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
						Days.							Days.						Days.
Diseases of the circulatory system.																			
Endocarditis, acute ..	3	1	1	0·1	0·5	55	1	1	—	—	0·1	0·2	81	4	2	1	0·1	0·7	62
Valvular disease of the heart	9	—	6	0·2	0·6	25	1	—	—	—	0·1	0·1	23	10	—	6	0·2	0·7	24
Disease of myocardium ..	7	1	—	0·1	1·0	53	6	2	—	2	0·6	0·8	48	13	3	—	0·2	1·8	50
Disordered action of the heart	43	—	2	0·9	2·2	19	9	—	—	1	0·9	0·4	16	52	—	2	0·9	2·6	18
Varix	18	—	—	0·4	1·3	26	3	—	—	—	0·3	0·0	7	21	—	—	0·4	1·3	23
Other diseases of the circulatory system ..	51	2	3	1·0	4·4	31	16	—	—	5	1·5	2·2	51	67	2	3	1·1	6·6	36
TOTAL—DISEASES OF THE CIRCULATORY SYSTEM	131	4	12	2·7	9·9	28	36	3	—	8	3·4	3·8	38	167	7	12	2·8	13·7	30
Diseases of lymphatic system and ductless glands	17	—	1	0·3	1·3	28	8	—	—	2	0·8	1·1	51	25	—	1	0·4	2·4	35
Diseases of respiratory system. (*a*)																			
Bronchitis	213	—	3	4·4	11·0	19	42	1	—	—	4·0	1·9	16	255	1	3	4·3	12·9	18
Tracheitis	173	—	—	3·6	3·3	7	56	—	—	—	5·3	1·1	7	229	—	—	3·9	4·4	7
Asthma	20	—	5	0·4	1·4	25	2	—	—	—	0·2	0·1	24	22	—	5	0·4	1·5	25
Pleurisy	68	—	15	1·4	11·1	59	15	—	1	1	1·4	1·3	32	83	—	16	1·4	12·4	54

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Other diseases of the respiratory system ..	18	—	4	0·4	2·6	54	4	—	—	—	0·4	0·2	15	22	—	4	0·4	2·8	46
TOTAL—DISEASES OF THE RESPIRATORY SYSTEM	492	—	27	10·1	29·4	22	119	1	1	1	11·3	4·6	14	611	1	28	10·3	34·0	20
Diseases of teeth and gums	128	—	—	2·6	3·2	9	23	—	—	—	2·2	0·6	9	151	—	—	2·5	3·8	9
Diseases of the digestive system (excluding tonsillitis).																			
Hypertrophy of tonsils ..	114	—	—	2·3	5·5	18	34	—	—	—	3·2	1·3	14	148	—	—	2·5	6·8	17
Gastritis, acute	118	—	—	2·4	2·8	9	42	—	—	—	4·0	0·9	8	160	—	—	2·7	3·7	9
Gastritis, chronic ..	5	—	—	0·1	0·3	25	5	—	—	1	0·5	0·4	26	10	—	—	0·2	0·7	26
Dyspepsia	53	—	—	1·1	2·4	16	32	—	—	—	3·0	1·4	16	85	—	—	1·4	3·8	16
Appendicitis	246	1	—	5.1	17·1	25	62	—	—	1	5·9	4·7	28	308	1	—	5·2	21·8	26
Hernia	147	—	1	3·0	12·2	30	27	—	—	1	2·6	2·2	30	174	—	1	2·9	14·4	30
Constipation	93	—	—	1·9	2·2	9	51	—	—	—	4·8	1·1	8	144	—	—	2·4	3·3	8
Colic	39	—	—	0·8	0·9	8	18	—	—	—	1·7	0·4	9	57	—	—	1·0	1·3	8
Hæmorrhoids	70	—	—	1·4	3·1	16	28	—	—	—	2·7	1·2	15	98	—	—	1·7	4·3	16
Jaundice	35	—	—	0·7	2·4	25	87	—	—	—	8·3	4·9	20	122	—	—	2·1	7·3	22
Other diseases of the digestive system	266	8	12	5·5	21·5	30	60	2	1	3	5·7	3·8	23	326	10	13	5·5	25·3	28
TOTAL—DISEASES OF THE DIGESTIVE SYSTEM ..	1,186	9	13	24·4	70·4	22	446	2	1	6	42·3	22·3	18	1,632	11	14	27·6	92·7	21
Diseases due to disorders of nutrition or metabolism	10	—	4	0·2	1·0	35	6	—	1	1	0·6	0·5	32	16	—	5	0·3	1·5	34

(*a*) Excluding pneumonia and tuberculosis, for which *see* p. 26.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937—*continued.*

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Diseases of the generative system.						Days.							Days.						Days.
Phimosis	27	—	—	0·6	1·8	25	21	—	—	—	2·0	0·9	16	48	—	—	0·8	2·7	21
Balanitis	30	—	—	0·6	1·0	11	14	—	—	—	1·3	0·3	9	44	—	—	0·7	1·3	11
Urethritis	103	—	—	2·1	8·8	31	42	—	—	—	4·0	3·6	32	145	—	—	2·4	12·4	31
Varicocele	10	—	—	0·2	0·4	16	10	—	—	—	0·9	0·5	21	20	—	—	0·3	1·0	18
Hydrocele	9	—	—	0·2	0·5	22	4	—	—	—	0·4	0·3	23	13	—	—	0·2	0·8	22
Epididymitis	12	—	—	0·2	1·1	35	2	—	—	—	0·2	0·1	13	14	—	—	0·2	1·2	32
Other diseases of the generative system	58	—	—	1·2	3·3	21	24	—	—	—	2·3	0·6	9	82	—	—	1·4	3·9	17
TOTAL—DISEASES OF THE GENERATIVE SYSTEM..	249	—	—	5·1	16·9	25	117	—	—	—	11·1	6·4	20	366	—	—	6·2	23·3	23
Diseases of organs of locomotion.																			
Diseases of the bone ..	14	—	2	0·3	1·6	41	2	—	—	1	0·2	0·6	104	16	—	2	0·3	2·1	48
Diseases of the joints ..	130	—	8	2·7	10·2	29	29	—	1	7	2·8	3·8	47	159	—	9	2·7	13·9	32
Myalgia and lumbago ..	110	—	—	2·3	2·9	9	24	—	—	1	2·3	0·9	13	134	—	—	2·3	3·7	10
Diseases of muscles, tendons and bursæ ..	130	—	—	2·7	4·3	12	30	—	—	2	2·8	1·5	18	160	—	—	2·7	5·8	13
Deformities of limbs ..	34	—	11	0·7	3·1	33	6	—	—	—	0·6	0·4	27	40	—	11	0·7	3·5	32
TOTAL—DISEASES OF ORGANS OF LOCOMOTION	418	—	21	8·6	21·9	19	91	—	1	11	8·6	7·1	29	509	—	22	8·6	29·0	21

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Diseases of areolar tissue or skin.																			
Impetigo	260	—	—	5·3	13·6	19	41	—	—	—	3·9	1·8	16	301	—	—	5·1	15·4	19
Scabies	154	—	—	3·2	4·6	11	9	—	—	—	0·9	0·3	11	163	—	—	2·8	4·8	11
Dermatitis	95	—	2	2·0	4·5	17	39	—	—	—	3.7	2·8	26	134	—	2	2·3	7·3	20
Urticaria	32	—	—	0·7	1·0	11	15	—	—	2	1·4	0·8	21	47	—	—	0·8	1·8	14
Eczema	45	—	—	0·9	2·8	22	15	—	—	3	1·4	0·9	22	60	—	—	1·0	3·7	22
Herpes	49	—	—	1·0	1·6	12	14	—	—	—	1·3	0·5	12	63	—	—	1·1	2·1	12
Psoriasis	17	—	—	0·3	1·6	35	3	—	—	—	0·3	0·2	19	20	—	—	0·3	1·8	33
Tinea cruris	304	—	—	6·2	10·6	13	39	—	—	—	3·7	1·2	11	343	—	—	5·8	11·7	12
Tinea, other	48	—	—	1·0	2·4	18	45	—	—	4	4·3	2·4	20	93	—	—	1·6	4·8	19
Ingrowing toe-nail ..	32	—	—	0·7	1·2	14	18	—	—	—	1·7	0·5	10	50	—	—	0·8	1·7	12
Other diseases of the skin	171	—	1	3·5	10·7	23	69	—	—	3	6·5	4·5	24	240	—	1	4·1	15·2	23
TOTAL—DISEASES OF AREOLAR TISSUE OR SKIN	1,207	—	3	24·8	54·5	16	307	—	—	12	29·1	15·9	19	1,514	—	3	25·6	70·4	17
Diseases of urinary organs.																			
Nephritis	17	1	2	0·3	1·9	41	8	—	—	5	0·8	1·5	71	25	1	2	0·4	3·4	50
Pyelitis	19	—	—	0·4	1·1	22	14	—	—	—	1·3	1·2	31	33	—	—	0·6	2·3	26
Cystitis	17	—	—	0·3	1·1	23	15	—	—	—	1·4	0·7	17	32	—	—	0·5	1·8	20
Incontinence of urine ..	15	—	6	0·3	1·0	23	1	—	1	1	0·1	0·1	56	16	—	7	0·3	1·1	25
Albuminuria	48	—	—	1·0	2·2	17	8	—	—	—	0·8	0·4	18	56	—	—	0·9	2·6	17
Other diseases of urinary organs	84	—	—	1·7	7·2	31	30	—	—	8	2·8	3·8	46	114	—	—	1·9	11·0	35
TOTAL—DISEASES OF URINARY ORGANS ..	200	1	8	4·1	14·5	26	76	—	1	14	7·2	7·8	39	276	1	9	4·7	22·3	29
Tumours and Cysts.																			
Tumours, non-malignant	28	1	1	0·6	2·6	34	3	—	—	—	0·3	0·1	19	31	1	1	0·5	2·7	32
Tumours, malignant ..	11	3	3	0·2	1·9	63	1	1	—	1	0·1	0·1	46	12	4	3	0·2	2·0	61
Tumours, undiagnosed ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cysts	34	—	—	0·7	1·6	17	8	—	—	—	0·8	0·4	20	42	—	—	0·7	2·0	18
TOTAL—TUMOURS AND CYSTS	73	4	4	1·5	6·1	30	12	1	—	1	1·1	0·7	22	85	5	4	1·4	6·8	29

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937—*continued.*

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Poisons.						Days.							Days.						Days.
Effects of alcohol ..	1	—	—	0·0	0·0	10	1	—	—	1	0·1	0·3	110	2	—	—	0·0	0·3	60
Other poisons	49	—	—	1·0	0·9	7	23	—	—	1	2·2	1·0	16	72	—	—	1·2	1·9	10
TOTAL—POISONS ..	50	—	—	1·0	1·0	7	24	—	—	2	2·3	1·3	20	74	—	—	1·2	2·3	11
No appreciable disease ..	88	—	—	1·8	2·5	10	23	—	—	—	2·2	0·5	8	111	—	—	1·9	3·0	10
Debility	24	—	—	0·5	0·8	12	19	—	—	—	1·8	0·7	14	43	—	—	0·7	1·5	13
Observation or special examination	99	—	—	2·0	4·8	18	11	—	—	1	1·0	0·7	24	110	—	—	1·9	5·5	18
ALL DISEASES	16,118	45	287	331·0	660·7	15	4,555	11	34	120	432·3	216·7	17	20,673	56	321	349·0	877·4	15
GENERAL INJURIES																			
Burns and scalds ..	14	2	—	0·3	0·6	15	8	1	—	—	0·8	0·7	31	22	3	—	0·4	1·2	21
Heat exhaustion and heat hyperpyrexia	1	—	—	0·0	0·0	4	26	5	1	4	2·5	1·8	26	27	5	1	0·5	1·8	25
Suffocation and strangulation	2	1	—	0·0	0·0	2	1	1	—	—	0·1	—	—	3	2	—	0·1	0·0	1
Drowning and effects of immersion	21	17	—	0·4	0·0	1	5	4	—	—	0·5	0·0	1	26	21	—	0·4	0·1	1

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Minor injuries	130	—	—	2·7	3·4	10	39	—	—	—	3·7	1·2	11	169	—	—	2·9	4·6	10
Multiple fractures ..	169	112	3	3·4	15·1	33	34	21	—	3	3·2	2·6	28	203	133	3	3·4	17·7	32
Gunshot wounds.. ..	1	1	—	0·0	—	—	1	1	—	—	0·1	0·0	1	2	2	—	0·0	0.0	1
Multiple wounds.. ..	1	—	—	0·0	0·1	19	—	—	—	—	—	—	—	1	—	—	0·0	0·1	19
Other injuries	16	—	—	0·3	0·3	7	17	—	—	—	1·6	0·5	10	33	—	—	0·6	0·8	9
*ALL GENERAL INJURIES	355	133	3	7·3	19·5	20	131	33	1	7	12·4	6·8	20	486	166	4	8·2	26·4	20
LOCAL INJURIES																			
Head and Neck :																			
Contusions and wounds..	147	—	—	3·0	3·8	9	27	1	—	2	2·6	0·7	10	174	1	—	2·9	4·5	9
Gunshot wounds.. ..	—	—	—	—	—	—	4	4	—	—	0·4	0·0	—	4	4	—	0·1	0·0	—
Burns and scalds ..	13	—	—	0·3	0·9	24	4	—	—	—	0·4	0·1	8	17	—	—	0·3	0·9	20
Fracture of skull ..	31	10	1	0·6	2·8	34	6	3	—	1	0·6	0·6	34	37	13	1	0·6	3·4	34
Concussion of brain ..	241	—	1	4·9	13·2	20	42	—	—	3	4·0	3·6	32	283	—	1	4·8	16·8	22
Other fractures	49	—	—	1·0	3·2	24	12	—	—	—	1·1	0·6	19	61	—	—	1·0	3·8	23
Other injuries	36	—	—	0·7	1·1	12	5	1	—	1	0·5	0·3	23	41	1	—	0·7	1·4	13
TOTAL—HEAD AND NECK	517	10	2	10·6	25·0	18	100	9	—	7	9·5	5·9	22	617	19	2	10·4	30·9	18
Trunk :																			
Contusions and wounds..	53	—	—	1·1	1·5	11	17	—	—	—	1·6	0.3	7	70	—	—	1·2	1·8	10
Gunshot wounds.. ..	2	1	—	0·0	0·1	14	—	—	—	—	—	—	—	2	1	—	0·0	0·1	14
Fractures	33	—	—	0·7	4·2	46	9	—	—	2	0·9	1·4	57	42	—	—	0·7	5·6	48
Other injuries	32	1	1	0·7	1·5	17	28	—	—	—	2·7	0·6	8	60	1	1	1·0	2·1	13
TOTAL—TRUNK	120	2	1	2·5	7·2	22	54	—	—	2	5·1	2·4	16	174	2	1	2·9	9·6	20

* Analysed in further detail in table XVI.

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TABLE XII.—NOSOLOGICAL TABLE FOR HOME, ABROAD AND TOTAL FORCE, 1937—*continued.*

Disease.	Home. Average strength, 48,697.						Abroad. Average strength, 10,535.							Total Force. Average strength, 59,232.					
	No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	No. invalided to United Kingdom.	Incidence of cases per 1,000 of strength.	Averages.		No. of cases.	No. of deaths.	No. finally invalided.	Incidence of cases per 1,000 of strength.	Averages.	
					No. sick daily.	Duration of case.						No. sick daily.	Duration of case.					No. sick daily.	Duration of case.
Upper Extremity:						Days.							Days.						Days.
Contusions and wounds..	94	—	—	1·9	3·6	14	15	—	—	—	1·4	0·6	15	109	—	—	1·8	4·2	14
Gunshot wounds.. ..	2	—	—	0·0	0·6	102	—	—	—	—	—	—	—	2	—	—	0·0	0·6	102
Burns and scalds ..	27	—	—	0·6	0·9	12	5	—	—	—	0·5	0·2	14	32	—	—	0·5	1·0	12
Fractures..	169	—	1	3·5	12·5	27	44	—	1	—	4·2	2·6	22	213	—	2	3·6	15·2	26
Dislocations	40	—	—	0·8	2·2	20	7	—	—	—	0·7	0·3	17	47	—	—	0·8	2·5	19
Sprains	23	—	—	0·5	1·0	15	5	—	—	—	0·5	0·1	7	28	—	—	0·5	1·1	14
Other injuries	18	—	—	0·4	1·2	24	6	—	—	2	0·6	0·6	39	24	—	—	0·4	1·8	27
TOTAL—UPPER EXTREMITY	373	—	1	7·7	21·9	21	82	—	1	2	7·8	4·5	20	455	—	2	7·7	26·4	21
Total—Hand and Wrist	143	—	1	2·9	7·0	18	31	—	1	2	2·9	2·1	25	174	—	2	2·9	9·1	19
Total—Rest of Limb..	230	—	—	4·7	14·9	24	51	—	—	—	4·8	2·4	17	281	—	—	4·7	17·3	23
Lower Extremity:																			
Contusions and wounds..	201	—	—	4·1	6·1	11	67	—	—	—	6·4	1·8	10	268	—	—	4·5	7·9	11
Gunshot wounds.. ..	1	—	—	0·0	0·0	3	2	—	—	—	0·2	0·1	23	3	—	—	0·1	0·1	16

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Burns and scalds ..	11	—	—	0·2	0·5	17	4	—	—	—	0·4	0·2	18	15	—	—	0·3	0·7	17
Fractures	173	—	—	3·6	21·6	46	37	—	—	2	3·5	4·0	39	210	—	—	3·5	25·6	44
Dislocations	14	—	—	0·3	0·6	17	3	—	—	—	0·3	0·1	11	17	—	—	0·3	0·7	16
Sprains	353	—	—	7·2	8·5	9	150	—	—	—	14·2	3·4	8	503	—	—	8·5	11·9	9
Other injuries	389	—	1	8·0	15·8	15	144	—	1	3	13·7	7·4	19	533	—	2	9·0	23·3	16
TOTAL—LOWER EXTREMITY	1,142	—	1	23·5	53·2	17	407	—	1	5	38·6	17·0	15	1,549	—	2	26·2	70·2	17
Foot and Ankle ..	416	—	—	8·5	11·0	10	176	—	—	1	16·7	4·6	10	592	—	—	10·0	15·6	10
Knee	398	—	—	8·2	16·1	15	137	—	—	3	13·0	6·7	18	535	—	—	9·0	22·8	16
Rest of Limb	328	—	1	6·7	26·0	29	94	—	1	1	8·9	5·7	22	422	—	2	7·1	31·7	27
*ALL LOCAL INJURIES ..	2,152	12	5	44·2	107·3	18	643	9	2	16	61·0	29·9	17	2,795	21	7	47·2	137·2	18
*ALL INJURIES	2,507	145	8	51·4	126·8	18	774	42	3	23	73·5	36·7	17	3,281	187	11	55·4	163·5	18
*ALL DISEASES	16,118	45	287	331·0	660·7	15	4,555	11	34	120	432·3	216·7	17	20,673	56	321	349·0	877·4	15
*ALL DISABILITIES ..	18,625	190	295	382·4	787·5	15	5,329	53	37	143	505·8	253·4	17	23,954	243	332	404·4	1,040·9	16

* Analysed in further detail in Table XVI.

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CHAPTER II.—THE HEALTH OF THE ROYAL AIR FORCE AT HOME DURING 1937

General

39. The incidence of sickness for the force at home in 1937 is analysed in Table I, page viii.

40. (i) The average strength during 1937 was 48,697, and the total number of cases of sickness was 33,001, giving a case incidence of 678 per 1,000. Excluding cases of not more than 48 hours' duration, the sickness incidence was 382 per 1,000. The number of sick daily, including all cases, was 17·3 per 1,000, and, excluding cases of not more than 48 hours' duration, 16·2 per 1,000, while the average number of days' sickness per head was 6·3 for all cases and 5·9 if cases of not more than 48 hours' duration are excluded. These figures all show a slight reduction from the year 1936. The average duration of each case for all cases was 9 days, and if cases of not more than 48 hours are excluded, 15 days. These figures remain as in 1936.

(ii) The death rate at 3·9 per 1,000 has increased by 1 per 1,000 from 1936, while the final invaliding rate has fallen from 6·4 per 1,000 to 6·1 per 1,000.

41. (i) Table III, page 17, analyses sickness by disease and injury groups.

(ii) There has been a decrease in the sickness incidence of 29·3 per 1,000 from 1936, due mainly to a reduction in the incidence of disease caused by infection, there having been little change in the incidence of diseases of the other groups or of injury.

42. Table XIII, page 42, analyses for officers, cadets and airmen by age groups, certain diseases which, over a period of years, the chief nosological table has shown to be responsible for the major part of medical non-effectiveness at home. This table also permits of a more detailed analysis of the incidence of disease at home in the age groups given in Table VII, page 21.

43. (i) In the age groups for airmen, the incidence for all disabilities is highest in the under 18 group at 756 per 1,000, and decreases with advancing age up to the 35–39 group at 231 per 1,000, there being a slight rise among those of 40 and over. The figure 756 for the under 18 group shows a fall of 90 per 1,000 from 1936, and of 270 per 1,000 from 1935. The decrease in the incidence of upper air passage infections, commented on in 1936, is again observed.

(ii) The incidence of all diseases for airmen—all ages—is 336 per 1,000, compared with 280 for officers and cadets and 331 for all

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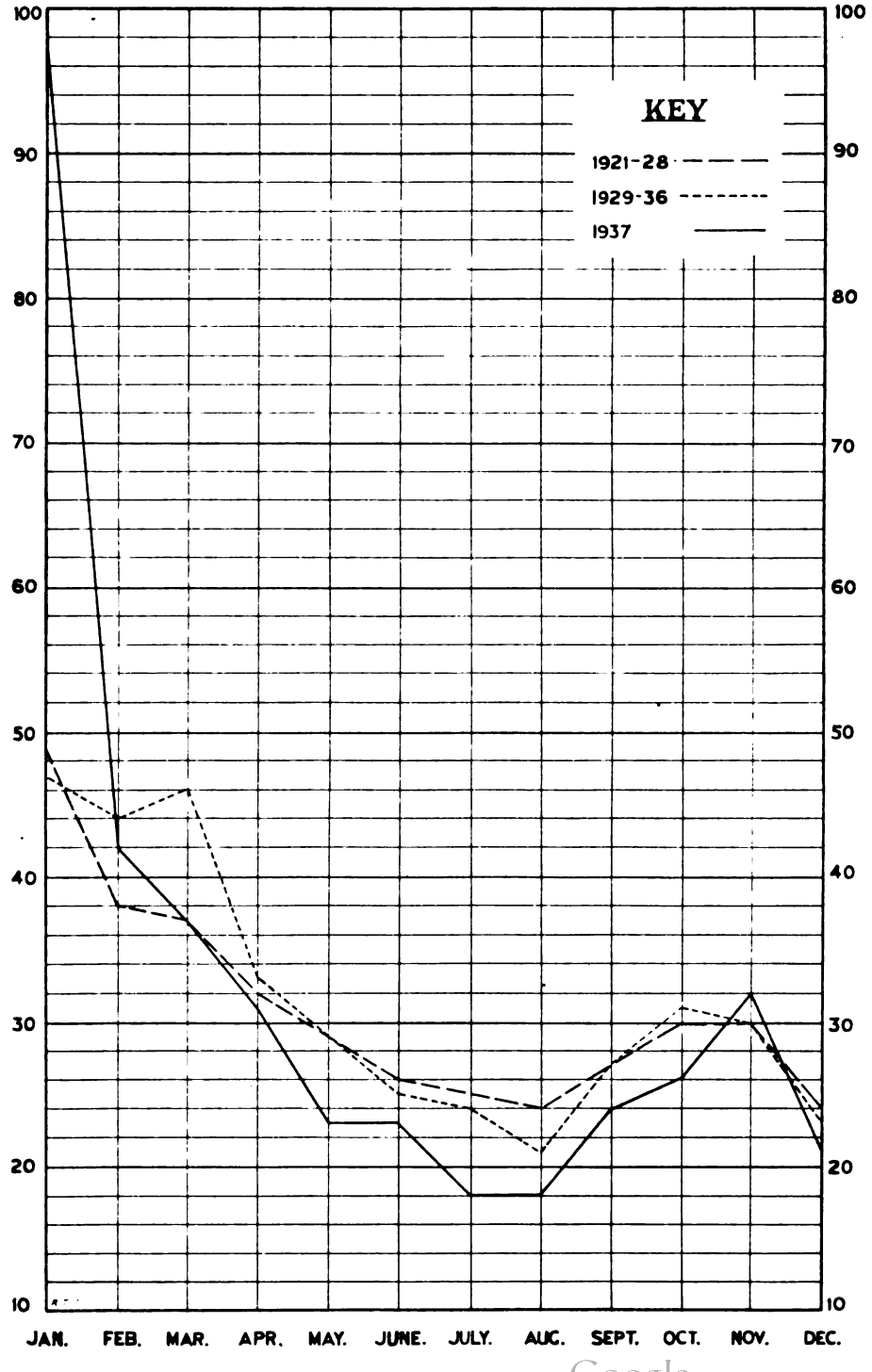
CHART I. SICKNESS AT HOME.— 1937.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH.



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ranks. Considering the age groups for airmen alone, the incidence of all disease is highest in the youngest group (711 per 1,000) and lowest in the group 30–34 (204 per 1,000).

(iii) The incidence of injury for airmen—all ages—is 48 per 1,000, compared with 83 for officers and cadets, and 51 for all ranks. For the age groups of airmen, the highest incidence is found in the group 24–25 (63 per 1,000), and the lowest in the group 40 and over (17 per 1,000).

(iv) Of the individual diseases, influenza at 86 per 1,000 has increased almost fourfold. In the group under 18, the figure rose from 32 per 1,000 in 1936 to 201 per 1,000. The lowest incidence is found in the group 24 and 25 (54 per 1,000). Upper air passage infections show a decrease in the under 18 group from 325 per 1,000 in 1936 to 212 per 1,000, and this reduction is noticeable in all age groups. The highest incidences of venereal disease are found in the groups 26 and 27, 28 and 29, and 22 and 23, with incidences of 11, 11 and 10 per 1,000. The lowest incidence is in the under 18 group with 1 per 1,000. As regards respiratory diseases, the highest incidence occurs in the 40 and over group, where it is more than double that in any other single group. The incidence of digestive diseases also is highest in this group at 39 per 1,000, compared with 24 per 1,000 for all ranks.

44. (i) Table XIV, page 43, analyses for the principal stations the distribution of the same diseases as shown in Table XIII.

(ii) It will be seen that the highest incidence of all disabilities was at Uxbridge (620 per 1,000), followed by Halton (606 per 1,000), Netheravon (550 per 1,000), Eastchurch (495 per 1,000) and Cranwell (477 per 1,000). With the exception of Netheravon these stations also had the highest incidences in 1936. The station showing the lowest incidence was North Coates (220 per 1,000). For all stations at home the figure was 382 per 1,000, as compared with 412 per 1,000 for 1936.

(iii) As regards all diseases, Halton, with 566 per 1,000, and Uxbridge, with 564 per 1,000, head the list, North Coates and the Fleet Air Arm having the lowest incidences, with 177 and 183 per 1,000. The incidence for all stations at home was 331 per 1,000, compared with 359 per 1,000 for 1936.

(iv) Netheravon and Martlesham showed the highest injury incidences, with 108 per 1,000 and 97 per 1,000, the lowest being Cardington and Leuchars with 32 per 1,000 each. The incidence for all stations was 51 per 1,000 compared with 53 per 1,000 for 1936.

(v) Other points of interest are the low incidence of venereal disease at many stations, Halton and Felixstowe having incidences of only 1 per 1,000, the high incidence of upper air passage

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infections at Uxbridge, where a large percentage of the personnel is made up of recruits, and at Halton and Eastchurch where the population consists largely of the under 18 group.

45. Chart I, facing page 38, records graphically the monthly case incidence at home, for the total sickness per 1,000 of strength for 1937 and the periods 1929–1936 and 1921–1928. The high peak reached in January is due mainly to influenza, and corresponds with the return of personnel from Christmas leave. As is usual, the incidences for the months of July, August and December—the leave periods—are the lowest.

Notes on Diseases

46. *Acute upper air passage infections.*—The incidence of this group of diseases decreased from 119·8 per 1,000 in 1936 to 77·6 per 1,000, the fall in the main being due to lower incidences of tonsillitis, pharyngitis and nasopharyngitis.

47. *Influenza.*—Following an outbreak of mild type in the early part of the year, the incidence rose from 22 per 1,000 in 1936 to 86 per 1,000.

48. *Acute rheumatism.*—96 fresh cases occurred at home, giving an incidence of 2·0 per 1,000, compared with 122 fresh cases (3·4 per 1,000) in 1936. The 96 fresh cases were distributed as follows—airmen 63, aircraft apprentices at Halton 22, aircraft apprentices at Cranwell 4, boys at Cranwell 5, and apprentice clerks at Ruislip 2. Of the 63 airmen, 50 returned to duty, 5 were invalided, 7 remained under treatment at the end of 1937, and the remaining case was subsequently invalided for epilepsy. Out of the 26 aircraft apprentices, 16 returned to duty, 3 were invalided, one died, one later developed tubercular abscess and was invalided for this disability, and 5 remained under treatment at the end of the year. Of the 5 boys, 4 returned to duty and one was invalided; while both the apprentice clerks returned to duty. In addition to the fresh cases, there were 20 cases remaining from 1936, and of these 15 returned to duty and 5 were invalided, making a total of 14 cases invalided from the service during the year.

49. *Measles, mumps, rubella and scarlet fever.*—With the exception of mumps, of which 390 cases, mostly among apprentices and boys, are reported, there was no large outbreak of these diseases.

50. *Malaria.*—Of the 33 cases occurring at home, the primary attack took place in the United Kingdom in 7 instances. Investigation of these cases showed that they had all recently returned from overseas where they were exposed to infection.

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51. *Otitis Media.*—(i) During 1937, 199 cases of acute otitis media were reported, an incidence of 4·1 per 1,000, compared with 192 cases and an incidence of 5·4 per 1,000 in 1936.

(ii) The number of chronic cases was 44, an incidence of 0·9 per 1,000, and of these, 12 were finally invalided, compared with 18 in 1936.

52. *Psychoneurosis.*—There were 98 cases of psychoneurosis during the period, giving an incidence of 2 per 1,000 as compared with 37 cases (1·0 per 1,000) in 1936, and of these, 38 were invalided from the service.

53. *Diseases of the heart.*—Sixty-two cases of disease of the heart were reported, representing an incidence of 1·3 per 1,000 compared with 1·2 per 1,000 in 1936. Of these 62 cases, 43 were " disordered action " 9 were valvular disease, and 10 were diseases of the endocardium and myocardium. There were 2 deaths and 9 cases were invalided from the service.

54. *Injury.*—The incidence of injury in 1937 at 51·4 per 1,000 again shows a decrease, the figures for 1936 and 1935 being 52·5 and 62·5 per 1,000. There were 145 deaths from this cause and 8 final invalids.

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TABLE XIII.—INCIDENCE OF CERTAIN DISEASES AT HOME ANALYSED BY AGE GROUPS, 1937.

Age last birthday.	Case incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Airmen.—									
Under 18	201	212	1	10	23	265	711	45	756
18 and 19	94	88	4	11	22	138	356	49	405
20 and 21	77	77	6	9	25	137	332	56	388
22 and 23	69	71	10	9	27	123	309	60	369
24 and 25	54	53	7	9	22	103	248	63	311
26 and 27	58	44	11	9	25	94	243	50	293
28 and 29	71	42	11	10	22	80	236	43	279
30 to 34	60	34	6	9	22	73	204	28	232
35 to 39	55	29	5	11	23	84	207	24	231
40 and over	67	27	—	26	39	89	249	17	266
Airmen, all ages	86	79	6	10	24	130	336	48	384
Officers and cadets, all ages	80	64	5	10	26	95	280	83	363
All ranks at Home, 1937 ..	86	78	6	10	24	127	331	51	382
All ranks at Home, 1936 ..	*22*	*120*	*5*	*12*	*27*	*173*	*359*	*53*	*412*
All ranks at Home, 1935 ..	*12*	*106*	*6*	*10*	*26*	*120*	*280*	*63*	*343*
All ranks at Home, 1934 ..	*13*	*72*	*7*	*8*	*34*	*126*	*260*	*76*	*336*
All ranks at Home, 1933 ..	*75*	*73*	*7*	*11*	*36*	*130*	*332*	*80*	*412*

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Table XIV.—Sickness at Principal Stations at Home, 1937.

Station.	Case incidence per 1,000 of strength.								
	Influenza.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	All disabilities.
Calshot	103	60	8	11	26	157	365	77	442
Cardington	50	35	11	9	20	81	206	32	238
Cranwell	145	97	3	11	22	152	431	46	477
Eastchurch	81	143	2	15	24	149	414	81	495
Felixtowe	62	33	1	6	21	82	207	38	246
Gosport	90	43	9	7	16	88	253	45	298
Halton	175	148	1	9	22	212	566	40	606
Henlow	72	98	5	9	25	120	331	33	364
Lee on Solent	90	54	6	24	32	119	325	64	388
Leuchars	50	52	4	6	28	120	260	32	291
Manston	118	66	3	12	24	159	382	46	428
Martlesham	71	42	3	12	21	137	287	97	384
Mildenhall	76	69	4	4	18	107	277	87	364
Netheravon	147	85	10	8	38	154	442	108	550
North Coates Fitties ..	43	25	8	15	16	69	177	43	220
Ternhill	104	82	13	12	34	119	363	44	408
Uxbridge	89	186	3	20	28	238	564	56	620
Wittering	93	79	8	6	10	93	289	47	336
Fleet Air Arm (all stations)	25	49	16	1	19	71	183	64	247
All other stations	55	47	8	9	25	93	238	54	292
All stations	86	78	6	10	24	127	331	51	382

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CHAPTER III.—THE HEALTH OF THE ROYAL AIR FORCE ABROAD DURING 1937

GENERAL

55. The incidence of sickness for the force abroad during 1937 is analysed in Table I, page viii, by geographical areas.

(i) The average strength during 1937 was 10,535, the number of cases of sickness being 8,394—an incidence of 797 per 1,000, compared with 873 per 1,000 in 1936. There has been no remarkable fall in the incidence of any one group of diseases, the lower figure being due to small decreases in many of the groups, though for diseases caused by infection the incidence has risen from 264·8 in 1936 to 275·3 per 1,000. If cases of not more than 48 hours' duration are excluded, the sickness incidence at 506 per 1,000 is lower by 19 per 1,000 than in 1936.

(ii) The number of sick daily, including all cases, was 25·2 per 1,000, and omitting cases of not more than 48 hours' duration, 24·1 per 1,000. Both these figures are somewhat lower than those for 1936.

(iii) The average number of days sickness per head for all cases was 9·2, and excluding cases of not more than 48 hours' duration, 8·8 days. For 1936 the corresponding figures were 9·9 and 9·3 days.

(iv) For all cases, the average duration of each case in days has risen, from 11 in 1936, to 12, but if cases of not more than 48 hours' duration are omitted, the duration, at 17, is less by 1 day.

56. When sickness is considered by geographical areas, Iraq, with an all disabilities incidence of 920 per 1,000, has the highest rate, contrasting with an all disabilities incidence of 797 per 1,000 for all areas abroad. Excluding cases of not more than 48 hours' duration, Iraq still shows the highest incidence at 674 per 1,000, the figure for all areas being 506 per 1,000.

57. (i) Table XV, page 49, analyses for officers and for airmen—in the latter case by age groups—certain diseases which are the principal cause of medical non-effectiveness abroad. It also deals in greater detail with the incidence of disease in the age groups shown in Table X, page 24. In certain cases the incidences have not been calculated owing to the small numbers concerned. In comparison with 1936, malaria has increased from 26 to 31 per

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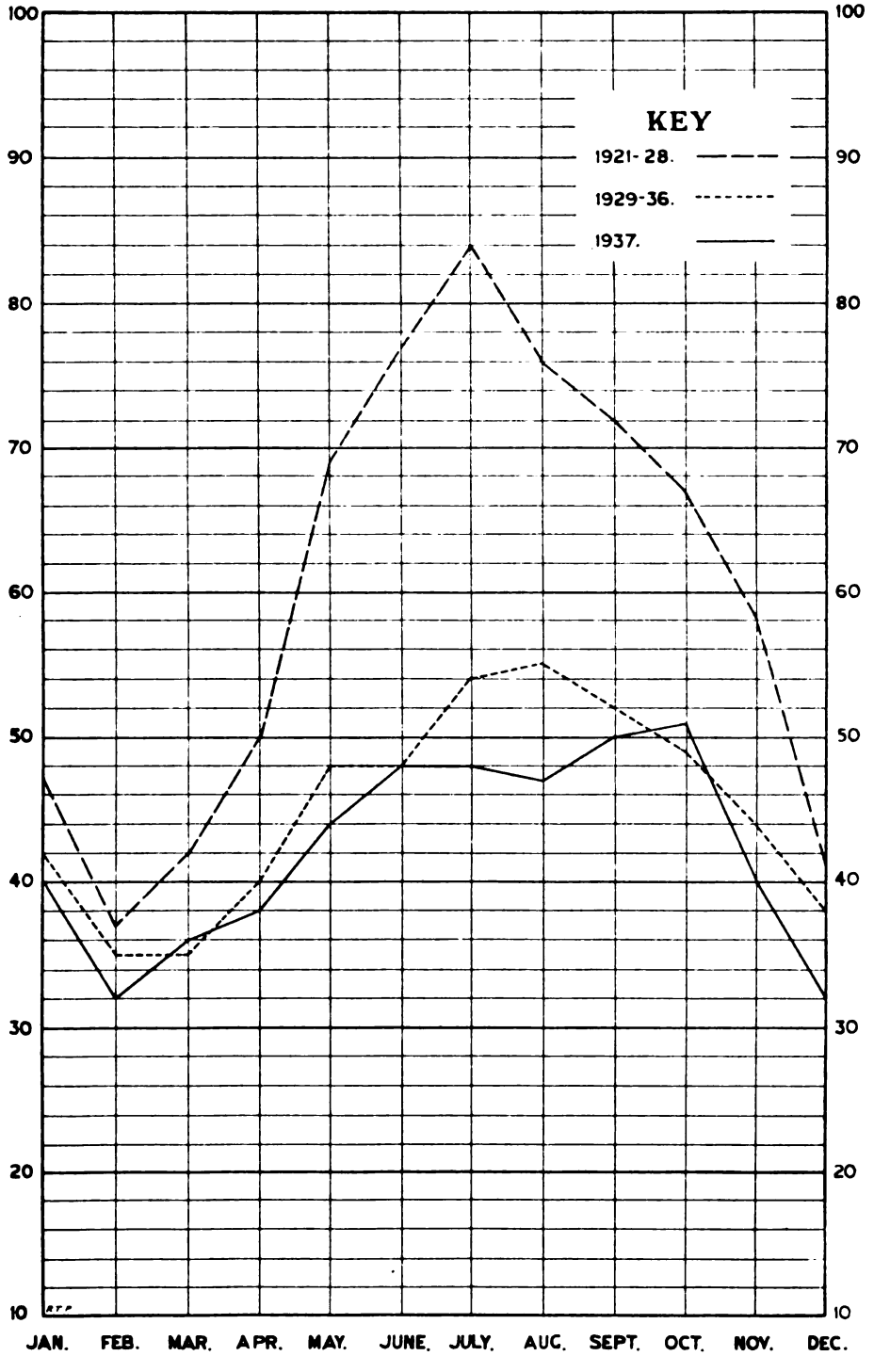
CHART 2. SICKNESS ABROAD, —— 1937.

MONTHLY CASE INCIDENCE (ALL DISEASES AND INJURIES) PER 1,000 OF STRENGTH



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1,000, though the age groups 28 and 29, and 35 to 39, show lower incidences. Phlebotomus fever, at 41 per 1,000, has risen by 20 per 1,000, the rise having taken place in all groups, though noticeably so in the groups 20 and 21, 22 and 23, 26 and 27. The slight increase in venereal diseases, from 21 to 24 per 1,000, is to be found mainly in the groups 24 and 25, 28 and 29. The remaining diseases or groups of diseases with the exception of upper air passage infections which remained almost unchanged, all show decreased incidences.

(ii) Of the groups of disabilities in this Table, injuries and upper air passage infections at 74 per 1,000 have the highest incidences. The total disabilities rate is highest in the age group 20 and 21, at 634 per 1,000; it is lowest, with 380 per 1,000, in the group 35 to 39.

Invaliding from Commands Abroad to the United Kingdom

58. (i) Details of the cases invalided to the United Kingdom will be found in Table I, page viii, which gives the total figure, and the numbers transferred from different areas abroad, and in Table XI page 25, where the cases are classified by disease and injury.

(ii) During 1937 a total of 143 cases (13·6 per 1,000) were invalided—24 officers and 119 airmen. This figure compares very favourably with that for 1936 when the invalidings amounted to 223, (18·6 per 1,000), and for 1935 when the incidence was 19·9 per 1,000.

(iii) Below are given figures for groups of diseases normally responsible for the major part of invalidings to the United Kingdom together with the rates for 1936 and 1935.

	1937		1936		1935	
Injuries	23		27		44	
Diseases of the nervous system and brain :—						
Epilepsy	2		5		3	
Mental diseases	3	22	11	61	5	39
Psychoneurosis	12		28		20	
Others	5		17		11	
Diseases of Urinary organs :—						
Nephritis	5	14	3	11	1	12
Others	9		8		11	
Tuberculosis :—						
Pulmonary	10	13	11	13	5	7
Other forms	3		2		2	
Diseases of skin and areolar tissue.	12		9		5	

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	1937		1936		1935	
Diseases of the organs of locomotion.	11		10		7	
Diseases of the circulatory system.	8		8		10	
Diseases of the ear and nose :—						
Chronic suppurative otitis media.	4	7	4	10	2	6
Others	3		6		4	
Diseases of the digestive system.	6		17		14	

These groups account for 115 cases out of a total of 143 invalidings.

In the case of the officers, 16 were invalided on account of disease, 2 as a result of old injury, and 6 as a result of recent injuries, which in one case was due to a flying accident. Of the airmen, 93 were invalided on account of disease and 9 as a result of old injury. The remaining 17 were cases of recent injuries, due in 3 cases to flying accidents.

(iv) Of the 24 officers invalided, 19 were returned to duty during the year, 1 was invalided from the service, 1 died, and 3 remained under treatment at the end of the year. Of the 119 airmen, 77 returned to duty, 23 were invalided from the service and 19 remained under treatment.

59. Chart 2, facing page 44, shows the monthly incidence of sickness abroad. The highest incidence of sickness in 1937 was reached in the months June to October, the peak occurring in the latter month.

Notes on Diseases

60. *Dysentery, Malaria and Phlebotomas Fever.*—(i) Table XV, page 49, analyses these diseases at the principal stations abroad, showing the percentage of each, and the relation of the three diseases to all other diseases. Table XVI, page 50, continues the analysis to show the actual number of cases at each station, and differentiates between primary and relapse cases and the various types of dysentery. Table XVII, page 52, gives the monthly figures for certain areas abroad, and the incidences for 1937 and 1936 and the periods 1929–1936.

(ii) (*a*) *Dysentery.*—The total number of cases of dysentery abroad was 51, an incidence of 5 per 1,000, compared with 7 per 1,000 for 1936. In 38 cases a diagnosis of bacillary dysentery was made, the remainder consisting of protozoal infections 6 and clinical dysentery 7.

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The largest number of cases occurred in India ; at Karachi, however, where in the previous year 16 cases occurred, only 2 were reported in 1937. The commands showing the next largest figures were Middle East and Iraq, though in the latter command, Hinaidi, where 19 cases were reported in 1937, remained free. The remaining cases were scattered in small numbers among the various stations.

(iii) *Malaria*, with an incidence of 31·5 per 1,000 for all forms, has increased by 5·1 per 1,000 from 1936. For India, the incidence of primary malaria was 30·4 per 1,000, as compared with 21·2 in 1936, and for Iraq also the incidence has increased from 36·3 to 46·7 per 1,000. In the Middle East the stations at which the largest number of primary infections took place were Khartoum, Nairobi, Aboukir and Abu-Sueir ; in India, Karachi and Miramshah ; and in Iraq, Hinaidi and Basrah. The monthly case incidence shows that in the Middle East the largest number of cases occurred in September, in India in August and September, and in Iraq in November.

(iv) The incidence of Phlebotomus fever has increased from 21 per 1,000 in 1936 to 41 per 1,000. The increase is due in the main to the number of cases occurring in Iraq, which has risen from 102 in 1936 to 283. Of this command, Hinaidi and Habbaniya report by far the largest incidence. The increase in the number of cases at Hinaidi was matched by a general rise in the incidence of this disease in the Baghdad district, while at the new station at Habbaniya, the damp and debris, inevitable where extensive building operations are in progress, provided an ideal breeding-ground for the phlebotomus. The peak months were—in Iraq from May to October ; in India from June to September ; and in the Middle East from May to August and again in October.

61. *Diseases of the Enteric Group.*—In 1937 there were 10 cases, an incidence of 0·9 per 1,000 compared with 0·3 per 1,000 in 1936. There were no deaths or invalidings.

The cases were distributed as follows :—

(i) *Typhoid fever.*—Two cases ; one in Iraq and the other in the Far East (Fleet Air Arm).

(ii) *Paratyphoid fever " A ".*—Only one case is reported, which occurred in the Middle East.

(iii) *Paratyphoid fever " B ".*—Four cases, two are reported from Iraq and one each from India and the Middle East.

(iv) *" Enteric Group ".*—Three cases are returned under this heading, two from India and one from Iraq.

62. *Acute enteritis and acute gastro-enteritis.*—The incidence for these diseases was 31·2 per 1,000, which is lower than for both 1936 and 1935.

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63. *Effects of heat.*—There were 26 cases, as compared with 19 in 1936. Nine cases are reported from India, including one case of hyperpyrexia, which proved fatal. Of the remainder, 6 returned to duty in the command, and 2 were invalided to the United Kingdom; one of these returned to duty, and the other remained under treatment at the end of 1937. Of the 6 cases occurring in Aden, 5 were of a mild type and returned to duty locally, the remaining 1 being a rapidly fatal case of heat hyperpyrexia. In Iraq 10 cases occurred of which 3 were cases of heat hyperpryexia. Two of these cases ended fatally and the third was invalided to the United Kingdom where he was finally invalided. Five of the remaining cases were of a mild type and returned to duty in the command, while 1 case proved fatal and 1 was invalided to the United Kingdom and eventually returned to duty. One mild case was reported from H.T. Nevasa.

64. *Influenza and influenzal pneumonia.* The incidence has fallen from 16·9 per 1,000 in 1936 to 11·7 per 1,000.

65. *Upper air passage infections.*—The incidence, at 74·0 per 1,000, is practically unchanged from 1936. This group includes acute tonsillitis, which contributed 27·9 per 1,000 of the total.

66. *Psychoneurosis.* There were 27 cases of psychoneurosis (2·6 per 1,000), and of these 12 were invalided to the United Kingdom. Three cases were invalided from the service.

67. (i) *Otitis Media.* Twenty-one cases of acute otitis media are recorded (2·0 per 1,000), but in no case was invaliding to the United Kingdom necessary.

(ii) The number of cases of chronic otitis media was 9 (0·9 per 1,000), compared with 15 (1·2 per 1,000) in 1936. Four were invalided to the United Kingdom and 1 was eventually invalided from the service.

68. *Diseases of the heart.*—The total number of cases, as in 1936, was 17, made up of disordered action of the heart 9, disease of the myocardium 6, valvular disease 1, and endocarditis acute 1. The incidence, at 1·7 per 1,000, is very slightly higher than in 1936.

69. *Injury.* The incidence of injury, 73·5 per 1,000, is lower by 3·8 per 1,000 than in 1936. There were 42 deaths, 23 cases were invalided to the United Kingdom and 3 were finally invalided from the service. For 1936 the corresponding figures were 55, 27 and 3.

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TABLE XV.—INCIDENCE OF CERTAIN DISEASES ABROAD, ANALYSED BY AGE GROUPS: 1937.

Age last birthday.	Case incidence per 1,000 of strength.											
	Influenza.	Dysentery.	Malaria.	Phlebotomus fever.	Upper air passage infections.	Venereal diseases.	Respiratory diseases.	Digestive diseases.	All other diseases.	All diseases.	All injuries.	Total disabilities.
Airmen :—												
18 and 19	*	*	*	*	*	*	*	*	*	*	*	*
20 and 21	13	10	37	67	88	22	9	43	244	534	100	634
22 and 23	10	3	33	50	83	29	7	28	207	450	85	535
24 and 25	8	4	38	35	69	33	9	43	192	431	71	502
26 and 27	15	4	33	52	81	25	11	43	206	468	71	539
28 and 29	8	2	16	33	73	26	12	57	153	380	55	435
30 to 34	11	4	27	21	62	19	14	41	155	354	57	411
35 to 39	11	4	14	23	63	18	19	38	148	338	42	380
40 and over	*	*	*	*	*	*	*	*	*	*	*	*
Airmen, all ages	11	5	31	42	75	26	11	40	194	435	73	508
Officers, all ages	16	7	36	31	70	9	13	60	165	407	77	484
All ranks, abroad 1937	12	5	31	41	74	24	11	42	192	432	74	506
„ „ 1936	*17*	*7*	*26*	*21*	*73*	*21*	*15*	*45*	*222*	*447*	*77*	*524*
„ „ 1935	*13*	*7*	*26*	*26*	*62*	*19*	*12*	*47*	*215*	*427*	*89*	*516*
„ „ 1934	*13*	*17*	*36*	*31*	*85*	*18*	*14*	*44*	*205*	*463*	*81*	*544*
„ „ 1933	*20*	*7*	*49*	*40*	*71*	*22*	*18*	*46*	*196*	*469*	*83*	*552*

* Not calculated in view of small average strength.

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Table XVI. Diseases Caused by Infection. Principal Commands Abroad, 1937

Disease.	FAR EAST. (Excluding Fleet Air Arm).			INDIA.			IRAQ.			MIDDLE EAST. =Egypt, Sudan, Kenya, Palestine and Trans-Jordan.		
		Average.			Average.			Average.			Average.	
	Case incidence per 1,000 of strength.	No. sick daily per 1,000 of strength.	Duration of case. Days.	Case incidence per 1,000 of strength.	No. sick daily per 1,000 of strength.	Duration of case. Days.	Case incidence per 1,000 of strength.	No. sick daily per 1,000 of strength.	Duration of case. Days.	Case incidence per 1,000 of strength.	No. sick daily per 1,000 of strength.	Duration of case. Days.
Diseases caused by Infection.												
Dysentery—												
Clinical, primary	—	—	—	2·4	0·1	17	—	—	—	0·3	0·0	18
,, recurrent	—	—	—	—	—	—	—	—	—	—	—	—
Bacillary, primary	—	—	—	5·8	0·3	18	3·6	0·2	20	2·7	0·1	20
,, recurrent	—	—	—	—	—	—	—	—	—	0·3	0·0	35
Amoebic, primary	1·0	0·0	14	1·4	0·1	26	—	—	—	0·3	0·0	12
,, recurrent	—	—	—	0·5	0·0	22	—	—	—	—	—	—
Total Dysentery	1·0	0·0	14	10·1	0·5	19	3·6	0·2	20	3·6	0·2	20
Enteric Group—												
Typhoid Fever	—	—	—	—	—	—	0·4	0·0	20	—	—	—
Clinical enteric	—	—	—	1·0	0·2	84	0·4	0·1	61	—	—	—
Paratyphoid fever A, B and C ..	—	—	—	0·5	0·1	84	0·9	0·2	62	0·6	0·1	61

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Enteritis, acute	15·2	0·3	7	20·7	0·4	7	54·8	1·2	8	31·6	0·5	5
Influenza	17·2	0·3	5	12·5	0·2	6	2·7	0·1	9	12·0	0·2	7
Malaria—												
Clinical, primary	—	—	—	3·4	0·2	18	12·5	0·4	13	1·5	0·0	13
,, recurrent	—	—	—	0·5	0·0	17	2·7	0·1	12	0·3	0·0	10
Quartan, primary and recurrent ..	—	—	—	1·4	0·1	20	0·4	0·0	24	0·6	0·1	11
Benign, tertian, primary	4·1	0·3	28	19·8	1·1	20	23·2	0·9	15	12·3	0·4	12
,, ,, recurrent.. ..	3·0	0·1	12	4·3	0·3	22	12·9	0·5	15	8·4	0·3	13
Malignant, tertian, primary ..	—	—	—	5·8	0·4	24	10·7	0·6	20	6·3	0·3	15
,, ,, recurrent ..	—	—	—	0·5	0·0	18	0·9	0·1	22	0·6	0·0	12
Cachexia	—	—	—	—	—	—	—	—	—	—	—	—
Total—Malaria	7·1	0·4	21	35·7	2·0	21	63·2	2·6	15	30·1	1·1	13
Pyrexia of unknown origin	1·0	0·0	11	0·5	0·1	39	9·3	0·3	11	7·2	0·1	5
Phlebotomus fever	—	—	—	38·1	0·6	6	126·0	2·7	8	17·2	0·3	7
Tuberculosis	3·0	1·0	123	0·5	0·3	252	1·8	0·7	141	0·9	0·5	179
Upper air passage infections ..	66·9	0·8	5	52·5	1·0	7	103·3	2·2	8	65·0	1·1	6
Venereal diseases	62·8	13·3	77	10·6	1·0	34	16·0	3·3	75	19·9	3·7	68
Other diseases caused by infection ..	67·9	1·7	9	29·4	1·8	23	57·9	2·6	17	49·4	1·6	12
All diseases caused by infection ..	242·1	17·8	27	212·0	8·3	14	440·3	16·1	13	237·4	9·4	14
All other diseases	218·8	11·8	20	124·8	7·9	23	158·1	9·6	22	160·7	9·4	21
All diseases	461·0	29·6	23	336·9	16·1	17	598·4	25·7	16	398·1	18·8	17
Injuries—												
General injuries	12·2	0·6	19	10·6	0·4	14	17·8	1·2	25	7·2	0·4	18
Local injuries	67·9	2·7	15	46·3	2·8	22	57·9	2·3	15	67·1	2·9	16
All injuries	80·0	3·4	15	56·8	3·3	21	75·7	3·5	17	74·4	3·3	16
All disabilities	541·0	32·9	22	393·7	19·5	18	674·1	29·3	16	472·5	22·1	17

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TABLE XVII.—SICKNESS, EXCLUDING INJURY, AT PRINCIPAL STATIONS IN COMMANDS ABROAD, 1937.

Command and Station.	Percentage of total number of cases of disease.					Case incidence per 1,000 of strength.		
	Dysentery.	Malaria.	Phlebotomus fever.	Total: dysentery, malaria and phlebotomus fever.	All other diseases.	Dysentery, malaria and phlebotomus fever.	All other diseases.	All diseases.
Aden.	%	%	%	%	%			
Aden and Khormaksar ..	2·1	1·6	—	3·7	96·3	15·8	416·3	432·1
Egypt.								
Aboukir	1·1	6·5	0·8	8·4	91·6	30·6	333·8	364·4
Abu Sueir	2·2	12·6	3·4	18·2	81·8	66·1	295·5	361·6
Heliopolis	—	3·7	5·7	9·3	90·7	44·4	429·5	473·9
Far East.								
Singapore	0·2	0·7	—	0·9	99·1	4·5	442·1	446·6
India.								
Karachi	0·8	9·2	4·4	14·4	85.6	54·5	324·2	378·8
Iraq.								
Hinaidi	—	9·8	20·0	29·8	70·2	146·5	344·5	491·0
Dhibban	—	3·9	30·2	34·1	65·9	260·2	501·5	761·7
Mediterranean.								
Malta	0·5	—	4·5	5·0	95·0	16·6	316·0	332·6

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TABLE XVIII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: INCIDENCE IN CERTAIN COMMANDS ABROAD.

Command.	Case Incidence per 1,000 of Strength.							
	Mediterranean.		Middle East.		India.		Iraq.	
Disease.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.
Dysentery—								
1937 ..	1·7	1·7	3·3	3·6	9·6	10·1	3·6	3·6
1936 ..	1·3	1·3	6·5	6·7	12·8	13·3	11·8	12·3
1935 ..	—	—	4·9	4·9	11·3	11·3	9·4	9·9
1934 ..	—	—	3·4	3·7	16·6	17·1	49·4	49·4
1933 ..	—	2·3	4·8	5·1	12·3	12·8	7·4	7·4
1932 ..	—	—	2·8	2·8	19·9	20·9	10·1	11·5
1931 ..	—	—	3·5	3·5	20·1	21·5	7·6	7·6
1930 ..	—	—	2·7	3·0	16·3	18·2	9·3	9·7
1929 ..	—	2·7	3·4	3·4	8·6	9·5	11·9	12·8
1928 ..	8·8	8·8	7·0	7·8	11·0	12·0	7·9	8·7
1927 ..	—	13·1	8·1	8·5	10·6	14·7	11·7	14·6
1926 ..	3·5	8·8	8·2	10·1	13·8	15·8	23·8	26·2
1925 ..	—	—	4·5	5·3	7·1	8·2	45·6	52·0
1924 ..	—	—	7·0	9·9	2·6	4·2	26·5	32·2
1923 ..	5·3	10·6	13·5	18·6	8·4	17·9	24·7	30·6
1922 ..	—	—	14·9	17·5	15·3	21·7	27·3	35·3
1921 ..	9·3	9·3	16·7	20·1	25·0	48·4	60·8	78·8
Malaria—								
1937 ..	—	—	20·8	30·1	30·4	35·7	46·7	63·2
1936 ..	—	2·6	25·8	33·0	21·2	28·1	36·3	41·5
1935 ..	1·7	1·7	20·1	26·6	26·9	36·7	24·3	34·7
1934 ..	—	—	28·2	42·5	44·1	65·9	17·6	24·0
1933 ..	—	—	35·0	48·3	81·1	110·5	19·3	25·8
1932 ..	—	—	21·6	26·5	50·4	70·8	16·3	20·6
1931 ..	2·4	7·2	11·6	14·0	48·5	97·5	20·8	26·9

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TABLE XVIII.—DYSENTERY, MALARIA AND PHLEBOTOMUS FEVER: INCIDENCE IN CERTAIN COMMANDS ABROAD—*continued.*

Command.	Case Incidence per 1,000 of Strength.							
	Mediterranean.		Middle East.		India.		Iraq.	
Disease.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.	Primary cases.	All cases.
Malaria—contd.								
1930 ..	2·5	5·1	15·8	25·8	60·9	140·5	36·2	55·7
1929 ..	—	2·7	21·6	31·0	110·0	184·7	44·9	59·0
1928 ..	—	—	20·2	63·4	43·3	145·2	13·7	26·9
1927 ..	—	13·1	60·7	112·1	131·1	284·4	27·4	80·7
1926 ..	3·5	5·3	15·3	31·1	174·2	330·1	87·1	187·3
1925 ..	1·4	24·6	9·5	23·4	88·8	236·4	51·9	100·9
1924 ..	2·0	11·7	12·2	29·1	81·6	228·6	53·3	144·8
1923 ..	—	2·6	15·0	25·2	106·5	202·0	86·3	151·2
1922 ..	2·1	2·1	8·9	29·5	68·7	196·1	38·6	63·4
1921 ..	—	—	6·8	24·6	174·1	337·6	11·7	78·8
Phlebotomus Fever—								
1937 ..	15·0		17·2		38·1		126·0	
1936 ..	10·5		15·4		33·0		52·2	
1935 ..	12·2		15·5		29·9		63·4	
1934 ..	4·7		17·3		28·0		74·3	
1933 ..	34·8		19·4		35·6		100·1	
1932 ..	44·8		21·3		41·7		118·7	
1931 ..	55·4		33·6		44·8		110·1	
1030 ..	78·5		21·5		72·9		86·7	
1929 ..	51·1		34·3		55·7		83·2	
1928 ..	114·0		48·3		51·2		96·6	
1927 ..	65·6		49·5		43·0		156·3	
1926 ..	12·3		21·3		45·8		155·3	
1925 ..	26·0		16·3		61·8		141·7	
1924 ..	29·3		40·9		43·9		139·1	
1923 ..	137·2		99·0		25·8		301·6	
1922 ..	119·7		117·8		50·5		565·3	
1921 ..	180·3		32·2		164·6		236·4	

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CHAPTER IV.—SPECIAL DEPARTMENTS

Central Medical Establishment

70. (i) *General.*—The number of examinations carried out at the Central Medical Establishment has steadily increased, and two boards were in session throughout the year.

(ii) *Teaching.*—Courses of instruction in aviation medicine were given to newly joined R.A.F. medical officers and to a number of Naval, Dominion and Colonial Medical Service officers.

(iii) *Examinations at the Central Medical Establishment.*—Table XIX, page 66, shows the percentage results of the examinations carried out on the different classes of candidates for flying duties during the year under review.

Eighty two per cent. were accepted, twenty three per cent. rejected and the remaining five per cent. were still temporarily unfit at the end of the year. The figures for 1936 were 71 per cent. accepted and twenty three per cent. rejected. Table XX, page 67, gives the causes of rejection of all service candidates, flying and otherwise, examined at the Central Medical Establishment during the year. The chief causes were, defective vision (52 per cent.) and medical and surgical disabilities (28 per cent.) Table XXI, page 68, shows the average physical efficiency tests of candidates accepted for flying duties.

(iv) *Researches.*—An investigation was begun into the effects of the very high speeds of modern aircraft in limiting the permissible violence of aerobatic manoeuvres. The problem of acceleration in flying is also being studied with regard to the development of means whereby pilots may be able to withstand degrees of acceleration which would otherwise incapacitate them.

Medicine

71 (i) *General.*—The number of consultant examinations at the Central Medical Establishment, and at the R.A.F. hospitals at Cranwell, Halton and Uxbridge, continues to increase. In addition, the Consultant in Medicine acted as President of No. 2 Central Medical Board, dealing with entrants for short service commissions and flying personnel for the various classes of the Reserve.

(ii) *Research.*—The investigation as to the significance of low blood pressure among pilots, initiated last year, has been continued, and further work has been carried out on the relationship between the present physical standards for flying personnel and the subsequent flying proficiency. A preliminary report has been prepared, but further investigation is necessary before definite conclusions can be drawn.

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Neurology

72. (i) *General.*—Routine examinations of patients were carried out at the Central Medical Establishment and at the R.A.F. hospitals, the total number of cases being 632. Of the new cases seen during 1937 the largest number related to psychoneurosis (29 per cent.), and as noted in the previous report, many of these cases fell under the heading " psychological inferiority," and were largely made up of recruits who were unable to adjust themselves to service life. Cases of head injury and concussion amounted to 24 per cent., organic diseases of the nervous system to 9 per cent., epilepsy and allied disturbances of consciousness to 7 per cent., mental disease to 6 per cent. and the remaining 25 per cent. suffered from such conditions as vertigo, headache, enuresis, air-sickness, migraine, and vaso-vagal attacks. As in previous years the majority of cases of epilepsy and allied disturbances of consciousness occurred among recruits who subsequently gave a history of previous attacks, not disclosed on entry.

(ii) *Research.*—The investigation of the standards of physical fitness required for flying personnel was continued during the year. A series of pupils, specially selected for observation, together with controls, was examined during the course of training. The results obtained will be eventually correlated with the individual's subsequent flying career. The conclusions drawn so far are that the causes of failure to learn to fly are psychological rather than physiological. The study of these psychological factors is being continued, and 100 pupils, who were unable to learn to fly have been subjected to intensive examination, comprising psychological interview, a series of paper tests (intelligence, form relations and mechanical aptitude), instrument tests for co-ordination and reaction time, eye examination and flying test. The results obtained are being analysed and any promising line of investigation will be continued.

Much valuable assistance in this work has been given by the Psychological Laboratory of the University of Cambridge.

Ophthalmology

73. (i) *General.*—Out-patient work at the hospitals, and special eye examinations at the Central Medical Establishment have again increased. Owing to the lowering of the visual standards for recruits this has been particularly noticeable in refraction work.

(ii) *Research.*—The study of depth perception has been continued and a new instrument—the Rotating Steriogram—which, it is considered, will help in the training of stereopsis, has been devised. Experiments in the design of flying goggles for use in open cockpits and cabin aircraft were continued.

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Oto-Rhino-Laryngology

74. (i) *General.*—(*a*) Central Medical Establishment. A large number of clinical examinations was made during the year, embracing all candidates, and those appearing before Invaliding Boards. In addition the consultant reported on a large number of cases sent from various units for his special consideration.

(ii) *Research.*—An audiometer has been installed, and the question of deterioration of hearing amongst those exposed to noise is being studied.

Physiology

75. (i) Investigations have been carried out during the year on the problem of those who are unable to learn to fly within an economically reasonable time. It is held that this inability must, in part, be inherent, and might perhaps be determined beforehand so as to avoid waste of both time and money in trying to teach the unteachable. To this end three devices have been adopted or designed. It is hoped, in a later report, to publish the results of this investigation, but at the moment no more can be said than that the device designed for the purpose has given some promising preliminary information, and work is proceeding along these lines. The Medical Research Council gave generous help in the design and construction of apparatus used in these investigations.

(ii) The physiological problems affecting the airmen in general and the crew of a service aircraft in particular have been constantly reviewed and among questions under consideration may be mentioned the designing of flying headgear including masks for breathing oxygen at great heights, apparatus for its supply, and the possibility of alternatives for oxygen.

(iii) Courses of instruction have been given to medical officers and airmen in the principles of self protection and the case of the gassed.

Pathology and Tropical Medicine

76. (i) *General.*—A total of 55,161 routine specimens was examined in R.A.F. pathological and clinical laboratories during the year; a synopsis of the work done in each laboratory will be found in Table XXIII, page 70.

(ii) *Teaching.*—At the R.A.F. Institute of Pathology and Tropical Medicine at Halton, 2 officers received advanced instructions in pathology, bacteriology and tropical medicine, and 22 newly-joined medical officers underwent a three months' course in the same subjects. Nine airmen were under training in general laboratory work, of whom 5 passed the examination for remustering to laboratory assistant.

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SURGERY

77. *General.*—(i) The number of surgical operations performed during the year—in commands at home and abroad—was 4,408, an increase of 465 over the figure for the year 1936.

(*a*) An increase in the number of spinal injuries following accidents has been noted, and in this connection, a case of fracture dislocation of the 4th cervical vertebra with accompanying paralysis, is of particular interest. Reduction was accomplished, under direct vision, by traction of 160 pounds. Movements and sensation have returned to about 60 per cent. of normal and are still increasing.

(*b*) Amongst other cases of interest were 2 of abnormal renal vessels causing hydronephrosis in which excellent functional results were obtained after operation and 2 of recurrent dislocation of the shoulder joint, treated by Clairmont's operation, in which the results were most satisfactory.

(*c*) An increasing tendency to use plaster in dealing with fractures and deformities is noticeable.

(ii) *Surgical operations.*—The table below shows the surgical operations carried out in R.A.F. Hospitals and sick quarters at home and abroad.

	Major.	*Minor.*	*Total.*
Home	710	2,520	3,230
Abroad	220	958	1,178
Total ..	930	3,478	4,408

Operations carried out in the Ear, Nose and Throat departments are shown in sub-para. vi on page 60.

(iii) *Anaesthetics.*—A total of 1,911 general anaesthetics was administered during the year.

The forms of general anaesthetic used were :—

(*a*) Inhalants :

Nitrous oxide	366
Chloroform and ether	258
Nitrous oxide, oxygen and ether	223
Nitrous oxide and oxygen	145
Ether	142
Chloroform	58
Ethyl chloride and ether	83
Nitrous oxide and ether	42
Various other combinations	74
Total	1,391

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(*b*) Basal Anaesthetics :

Evipan sodium	195
Pentothal sodium	58
Total	253

(*c*) Combinations of (*a*) and (*b*) :

Evipan sodium, nitrous oxide, oxygen and ether	138
Evipan sodium and various other drugs ..	53
Pentothal sodium, nitrous oxide and oxygen	33
Pentothal sodium, nitrous oxide oxygen and ether	21
Pentothal sodium, ethylene and oxygen ..	19
Pentothal sodium and various other drugs..	3
Total	267

Increasing use is being made of Evipan Sodium and Pentothal Sodium, both as a general anaesthetic for short operations and as a preliminary to the administration of other anaesthetics.

(*d*) Spinal anaesthesia was the method used in 21 cases, the anaesthetics being Percaine, Novutox and Novocaine.

(*e*) The local anaesthetics in use in R.A.F. Hospitals and Sick Quarters, excluding dental surgery, were :

Ethyl chloride	1,194
Novutox	171
Novocaine	165
Cocaine	175
Percaine	248
Murocaine	61
Others	92
Total	2,106

(iv) *Radiological departments.*—New X-ray sets were installed in several hospitals and the older apparatus brought up to date. The number of examinations (excluding dental work) and their nature are shown below :—

	Home.	*Abroad.*	*Total.*
General	3,296	1,836	5,132
Opaque Meals	206	83	289
Pyelography { intravenous ..	93	49	142
Pyelography { ascending	18	3	21
Cholescystography	41	16	57
Opaque Enemata	33	7	40
Chest (lipiodol)	15	—	15
Total	3,702	1,994	5,696

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(v) *Massage and electro-therapeutic departments.*—Treatments given in these departments have increased by over 1,200 since 1936. At several hospitals ultra shortwave diathermy sets have been installed. Particularly good results have been obtained in post-influenzal complication, which so often prolong the period in hospital. Thus, in residual infections of the sinuses, antra and upper respiratory tract this form of diathermy has proved of the greatest value.

	Home.	*Abroad.*	*Total.*
Massage treatments and exercises ..	17,516	9,215	26,731
Electrical treatments	7,501	4,267	11,768
Radiant heat	7,112	3,662	10,774
Ultraviolet and infra red irradiation	1,692	358	2,050
Total	33,821	17,502	51,323

(vi) *Ear, nose and throat departments.*—(*a*) *Operations.*—In the period under review 481 operations were performed in R.A.F. hospitals and sick quarters.

	Home.	*Abroad.*	*Total.*
Proof puncture of maxillary Antrum	122	70	192
Enucleation of tonsils and adenoids	147	22	169
Mastoidectomy	31	—	31
Intranasal antrostomy	6	14	20
All others	49	20	69
Total	355	126	481

Medical Training Depot

78. (i) During the year 21 medical and 9 dental officers underwent their initial course of training in service routine and tropical medicine, on appointment to commissions.

(ii) Two hundred and sixty-four recruits (252 medical and 12 dental) underwent Part 1 of their training at the Depot during the year, of whom 55 airmen of the medical branch and 6 of the dental branch had begun the course in 1936. Of the total undergoing training 19 medical airmen were remustered to aircrafthand as unlikely to prove efficient as medical orderlies, and one was remustered as dental mechanic. One recruit was invalided and 2 were discharged on medical grounds as unlikely to prove efficient. At the end of the year 162 airmen of the medical, and 11 airmen of the dental branches successfully completed the course while 64 medical and 1 dental airman remained under training.

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(iii) During the year 488 airmen of the medical and dental branches presented themselves at trade test boards for reclassification, remustering, extra qualification or promotion. Of this number, 432 were successful, and of the failures 19 were candidates for reclassification.

Transfer of Casualties and Medical Assistance by Air

79. (i) During 1937 a total of 298 patients was conveyed by air.

(ii) At home, 8 patients were carried and, in addition, 4 members of Queen Alexandra's Imperial Military Nursing Service were flown from Calshot to the Military Hospital at Gibraltar to attend German sailors who had been injured in the bombing of the "Deutschland."

(iii) In the Middle East Commands 25 patients were carried in 25 flights, 19 of which were at the request of the medical authorities. In the remainder advantage was taken of the presence of aircraft carrying out routine service duties. The distance covered in these flights was 6,303 miles, involving 62 flying hours. The Neil-Robertson stretcher was used on 1 occasion, the Universal Stretcher Sheet on 10 and the standard stretcher on 1. The remaining patients were evacuated as sitting cases. Advantage was also taken of air transport to deliver calf lymph to a refugee camp in Kenya where small pox had broken out. In the Sudan anti-rabic vaccine was flown from Khartoum to Wau, a distance of 850 miles. As the journey can normally only be accomplished by slow river steamer taking several weeks, the saving of time in beginning the treatment was considerable. In Transjordan a medical officer was flown to the scene of an accident in which an Arab Legion lorry was involved, rendering first-aid and bringing back one of the injured by air to Amman.

(iv) In the Iraq Command 89 patients were carried in 39 flights, 20 of which were specially undertaken for the purpose. The distance covered was 10,339 miles in 117¾ flying hours. The Neil-Robertson stretcher or the Universal Stretcher Sheet were not used for any of these patients. The majority were cases needing hospital treatment for various diseases, but on 2 occasions, personnel injured in an armoured car and a lorry accident respectively were evacuated to hospital.

(v) In the Aden Command 9 patients were evacuated in 8 flights involving 1,462 miles and 16 hours flying. The Neil-Robertson stretcher and the Universal Stretcher Sheet were used for 1 case each, the remainder being transferred as sitting cases. On 2 occasions patients were transferred by air from British Somaliland to Aden. In the first, which was undertaken at the request of the Governor, a case of acute appendicitis was evacuated to Aden, where he was successfully operated on. In the second, the pilot and passenger of an aircraft which had crashed at As Sauda were flown to hospital in

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Aden. At the request of the political officer, R.A.F. medical officers visited several seriously ill local notables and their families, and the wife of one of these was transferred by air to the Civil Hospital in Aden. In addition, medical officers went by air to attend tribesmen injured in private wars, and on several occasions these tribesmen were brought back to Aden by air. Finally, a medical officer was flown to Al Masana to investigate an outbreak of fever which was ravaging the local tribes.

(vi) In India air transport proved of the greatest value, a total of 165 patients being transferred to hospital by this method. Of this number 157 were sick and wounded, evacuated from Waziristan during operations. As the normal method of evacuation involves a long and arduous road journey, which at times cannot be undertaken owing to the condition of the patient, the state of the roads, or the military position, the use of aircraft has provided a means of bringing patients in need of deliberate hospital treatment to stations where such treatment is available, in the shortest possible time, sparing them in addition the exhausting road journey. It was found in practice that patients stood the journey well. In these journeys, the Neil-Robertson stretcher or Universal stretcher sheet were not used, lying cases being loaded directly into the machine on ordinary stretchers.

(vii) In the Mediterranean Command, a naval rating suffering from acute appendicitis was flown from Bougie to hospital in Gibraltar.

(viii) In the Far East a flying boat went from Singapore to Kuantan and brought back to hospital a civilian who was dangerously ill.

Summary of Medical Examination of Recruits

80. (i) In addition to the main provincial recruiting depôts at which final examinations were carried out, recruiting sub-depôts were opened at various centres, from which recruits, after a preliminary examination, were sent to the main depôt of their area for final assessment. Recruits receiving a preliminary examination at R.A.F. stations were dealt with similarly. As in previous years, aircraft apprentices, apprentice clerks and boy entrants were examined at Halton, Ruislip and West Drayton respectively, by Boards of R.A.F. medical officers. Table XXII, page 69, shows the causes of rejection of recruits during 1937.

(ii) (*a*) The total number of recruits examined was 19,719, and of these, 13,633, or 69 per cent., were finally found fit for general service, an increase of 5 per cent. over 1936.

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(*b*) At Halton, of 2,454 candidates, 87 per cent. were found fit as aircraft apprentices, an increase of 4 per cent.

(*c*) At Ruislip 246 candidates were examined for fitness as apprentice clerks, of whom 78 per cent. were found fit as compared with 83 per cent. in 1936.

(*d*) Of 1,060 applicants examined at West Drayton for entry as boys, 86 per cent. were accepted as compared with 77 per cent. the previous year.

(*e*) During the year, 10,240 recruits were attested as airmen, making, with 2,102 aircraft apprentices, 186 apprentice clerks and 800 boy entrants, a total entry of 13,328. The intake for 1936 was 12,597.

(iii) Civilian medical practitioners in the provinces carried out preliminary medical examinations on 2,763 candidates for enlistment as airmen, of whom 785 or 28 per cent. were found unfit, compared with 34 per cent. in 1936 and 41 per cent. in 1935. Of those found fit, 1,711 attended a recruiting depôt for final examination, where 254 or 15 per cent. were rejected. In 1936, and 1935, 19 and 20 per cent. respectively were rejected at the final examination.

(iv) At 50 R.A.F. stations, 526 candidates were examined for enlistment as airmen, of whom 148 or 28 per cent. were found unfit, compared with 33 per cent. in 1936 and 38 per cent. in 1935. Of the fit, 299 presented themselves for final examination at a recruiting depôt, where 23 per cent., as compared with 22 per cent. in 1936 and 24 per cent. in 1935, were rejected.

(v) At recruiting depôts, 18,440 examinations were carried out. Of these, 1,711 had been found fit by civilian practitioners, 299 by R.A.F. station medical officers, the remainder being direct applicants who had not previously been examined. Of this total 13,287 were found fit, 5,153 or 28 per cent. being rejected.

(vi) During the year, 16,430 candidates who applied direct to recruiting depôts were examined, and of these 4,832 or 29 per cent. were found unfit. The rejections for 1936 and 1935 were 33 per cent. and 31 per cent.

(vii) Of 13,287 candidates who were passed fit at the final examination at recruiting depôts, 1,151 or 9 per cent. were found to have defective colour vision, compared with 8 per cent. in 1936.

(viii) During the year, 6 aircraft apprentices, 1 apprentice clerk, 1 boy, and 21 airmen having served less than 6 months were invalided from the service. These 29 invalidings are included in the figures given in para. 19.

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The principal causes of invaliding were :—

Pleurisy	4
Acute rheumatism (sequelae)	4
Schizophrenia	4
Epilepsy	3
Tuberculosis, pulmonary	3
Tuberculosis, other forms	2
Psychopathic personality Temperamental instability	3
All others	6

Of these, 25 were admitted to hospital and received an average of 64 days treatment before discharge.

(ix) In addition to the 29 who were invalided, 3 aircraft apprentices, 1 boy and 64 airmen, having less than six months service, were discharged as unlikely to become efficient airmen on medical grounds. Of the 68 discharged under this heading, 67 were admitted to hospital and received an average of 28 days' treatment. The principal disabilities were :—

Psycopathic personality Temperamental instability	19
Epilepsy	16
Chronic bronchitis	4
Chronic suppurative otitis media	2
All others	27

Royal Air Force Reserve

81. *The Royal Air Force Reserve of officers and airmen pilots.* (i) This branch of the Reserve includes not only officers and sergeant pilots of the general duties branch, but also officers of the equipment, accounts, medical and dental branches. Airmen other than sergeant pilots, are not included in the following remarks.

(ii) The annual examination of those of the flying branch reporting for training show that 97 per cent. were for full flying duties, 1 per cent. fit for limited flying and 2 per cent. unfit.

(iii) During the period under training 53 Reserve personnel were non-effective sick, representing 443 days' sickness. This figure includes 6 cases of not more than 48 hours' duration. One member of the Reserve was drowned in a yachting accident off duty, during the period of training.

(iv) There was 1 fatal accident, and 6 reserve personnel received injuries necessitating a total of 63 days' treatment in hospital or sick quarters.

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Royal Air Force Volunteer Reserve

(i) During the year travelling medical boards examined candidates for the Volunteer Reserve at various centres. Sixty-two per cent. of candidates were accepted as fit, 25 per cent. rejected and 13 per cent. were temporarily unfit at the end of the year.

(ii) Whilst undergoing training, 33 reserve personnel were non-effective, representing 56 days' sickness.

(iii) Three reservists sustained fatal injuries in flying accidents, and one received injuries necessitating 61 days' hospital treatment. This case remained under treatment at the end of 1937.

Dental Treatment

82. (i) The standard of oral hygiene of recruits and aircraft apprentices on enlistment, during the year under review, is classified as follows :—

Recruits

	per cent.		per cent.	
Good ..	40·6		55·7	
Fair ..	46·5	compared with	39·2	for the previous year.
Neglected ..	12·9		5·1	

Aircraft apprentices

	per cent.		per cent.	
Good ..	33·0		20·4	
Fair ..	60·5	compared with	61·2	for the previous year.
Neglected ..	6·5		18·4	

(ii) The percentage of aircraft apprentices and boys found free from dental caries on entry was 7·9, compared with 1·3 for the previous year, and the percentage in regard to recruits was 1·6, the same as for 1936. The average number of fillings required per head was 4·6 for aircraft apprentices and boys and 5·6 for recruits as compared with 5·6 and 4·9 respectively for 1936. The average number of extractions for aircraft apprentices and boys was 0·4 and for recruits 1·01 per head.

(iii) (*a*) The total number of fillings completed by dental officers during 1937 for service personnel was 63,497, and for members of Princess Mary's Royal Air Force Nursing Service, and wives and families, 2,517, giving a total of 66,014, or an increase of 9,395 over the previous year. Of the total number of fillings for service personnel, 58,701 were completed at home and 4,796 abroad, as compared with 49,628 and 5,236 respectively in 1936.

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(*b*) The total number of teeth extracted by dental officers during 1937 for service personnel was 24,943, and for members of Princess Mary's Royal Air Force Nursing Service and wives and families, 3,004, giving a total of 27,947, or an increase of 5,294 over 1936. The increase for serving personnel was 4,956 extractions. Of the total number for service personnel 23,479 were completed at home and 1,464 abroad as compared with 18,335 and 1,652 respectively in 1936.

(iv) Seven hundred and three X-ray film exposures were made in connection with treatment at the Uxbridge Dental Centre, and four hundred and eighty at the Halton Dental Centre.

(v) *Anaesthetics.* One thousand five hundred and sixty-two general anaesthetics were administered during the year as follows :—

	Nitrous Oxide.	Chloroform and Ether.	Evipan.	Oxygen and Ether.	All others.	Total.
Home	1,091	16	14	9	68	1,198
Abroad	195	—	169	—	—	364
Total	1,286	16	183	9	68	1,562

Table XXIV, page 71, gives an analysis of all dental work completed at home and abroad.

TABLE XIX.—RESULTS OF MEDICAL EXAMINATIONS AT THE CENTRAL MEDICAL ESTABLISHMENT ON CANDIDATES FOR FLYING DUTIES, 1937.

Class of candidate.	Percentage rejected.		Percentage accepted.
	Finally.	Temporarily.*	
Cadets	6	2	92
Airman pilots	8	2	90
Short Service Commissions	17	5	78
Fleet Air Arm	6	—	94
Secondments from Army	11	—	89
Permanent Commissions. (University nominations).	8	8	84
Totals	14	4	82

* These cases were still temporarily unfit at the end of 1937.

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TABLE XX.—CAUSES OF REJECTION, ON MEDICAL GROUNDS, BY THE CENTRAL MEDICAL ESTABLISHMENT, 1937.

	(1) Vision.		(2) Ear, nose, and throat.		(3) Medical and surgical.		(4) Defective physical efficiency.		(5) Combinations of (1) (2) (3) with (4).		Total.	
	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.	Temporarily.	Finally.
Permanent commissions	3	1	—	1	2	9	—	—	—	1	5	12
Short service commissions ..	9	121	16	14	41	65	4	20	8	16	78	236
Cadets	3	13	—	1	4	4	—	—	—	—	7	18
Reserves	4	154	20	15	43	76	3	21	32	18	102	284
Airman pilots ..	1	13	3	6	2	7	—	—	—	—	6	26
Auxiliary Air Force	—	1	—	—	—	2	—	—	—	—	—	3
Fleet Air Arm ..	—	—	—	—	—	1	—	—	—	1	—	2
P.M.R.A.F.N.S. ..	—	6	1	—	—	2	—	—	—	—	1	8
Preliminaries for commissions and cadets	—	13	1	—	4	9	—	—	1	2	6	24
Others	—	4	—	1	—	2	2	—	—	2	2	9
Total ..	20	326	41	38	96	177	9	41	41	40	207	622

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TABLE XXI.—CANDIDATES ACCEPTED FOR FLYING DUTIES—AVERAGE PHYSICAL EFFICIENCY TESTS AND MEASUREMENTS RECORDED AT THE CENTRAL MEDICAL ESTABLISHMENT.

Nature of tests.	Unit of measurement.	All classes of candidates.				
		1925–29	1930–34	1935	1936	1937
Standing height ..	Feet and inches	5′ 9·0″	5′ 9·5″	5′ 9·0″	5′ 9·0″	5′ 9·5″
Weight	Lbs. ..	142	146	145	146	145
Chest	Inches ..	34·0″	34·5″	34·5″	34·5″	34·5″
Vital capacity ..	Cc. ..	4,921	5,018	5,047	5,042	4,893
Breath-holding ..	Seconds	78·8	83·6	83·8	79·9	84·2
Expiratory force ..	Mm. Hg.	139·5	139·9	139·9	124·9	131·2
Fatigue test	Seconds	65·8	69·6	68·1	65·4	68·4
Systolic pressure ..	Mm. Hg.	129·9	131·3	131·3	130·6	132·0
Diastolic pressure ..	Mm. Hg.	79·0	78·0	77·1	76·2	77·3
Pulse rate :—						
Sitting	Per Min.	72·1	71·7	72·0	73·6	75·2
Standing (1st 5 secs.)	,,	*	94·6*	92·3	94·8	97·5
Standing (lowest steady rate)†	,,	79·9	81·8	81·4	83·3	85·0
After exercise ..	,,	104·8	105·7	106·5	109·0	111·7
Time taken to return to normal	Seconds	29·9	32·1	36·1	38·3	34·6

* Not recorded prior to 1933.

† Comparable with " pulse rate, standing " of reports prior to 1933.

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Table XXII.—Airman Recruits—Causes of Rejection, 1937.

Total number examined 19,719.	Numbers rejected.					
Cause of rejection.	By civilian medical practitioners.	At recruiting depôts.	At R.A.F. stations.	Total number rejected.	Number rejected per 1,000 examined.	Number rejected per 1,000 rejected.
Teeth, loss or decay of	121	1,051	40	1,212	62	199
Physique, poor	205	716	27	948	48	156
Feet, deformities of	62	302	9	373	19	61
Heart, diseases of, including D.A.H.	36	188	10	234	12	38
Ears, diseases of	37	365	6	408	21	67
Lungs, diseases of	8	101	1	110	6	18
Vision, defects of	103	1,053	26	1,182	60	194
Speech, defects of	10	31	1	42	2	7
Nervous system, diseases of	11	88	2	101	5	17
Cutaneous system, diseases of ..	20	171	3	194	10	32
Albuminuria	12	141	7	160	8	26
Eyes and eyelids, diseases of ..	1	57	—	58	3	10
Hernia and bubonocele	15	109	2	126	6	21
Joints, diseases of	21	103	—	124	6	20
Veins, diseases of (varix)	26	177	3	206	10	34
Varicocele	33	55	3	91	5	15
Chest and spine, malformations of ..	10	47	3	60	3	10
Urinary organs, diseases of	1	26	2	29	1	5
Bed-wetting, history of	2	49	1	52	3	9
Ulcers, wounds, cicatrices	8	54	1	63	3	10
Other causes	43	269	1	313	16	51
Total	785	5,153	148	6,086	309	1,000

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TABLE XXIII.—SUMMARY OF LABORATORY WORK CARRIED OUT IN THE ROYAL AIR FORCE DURING 1937.

NATURE OF EXAMINATIONS.	UNITED KINGDOM.			ABROAD.				TOTAL.
	R.A.F. Institute of Pathology and Tropical Medicine.	Cranwell.	Clinical Laboratories.	Aden.	Egypt.	'Iraq.	Palestine.	
ANALYSES, CHEMICAL OR BACTERIOLOGICAL :—								
Faeces	1,861	156	—	1,074	674	2,426	1,628	7,819
Gastric	66	25	—	7	—	17	17	132
Urine	1,442	4,653	3,329	751	1,065	2,716	2,816	16,772
Food	28	9	—	77	3	1,124*	31	1,272
Sewage	133	—	—	—	—	—	6	139
Water	726	17	—	42	60	3,148*	35	4,028
Works material	—	—	—	—	—	140*	—	140
BLOOD TESTS :—								
Agglutination	25	5	—	48	4	34	52	168
Coagulation time	8	68	45	13	—	15	5	154
Counts	637	180	—	165	108	366	291	1,747
Cultures	32	8	—	17	10	32	69	168
Grouping	206	36	—	—	—	33	90	365
Malaria parasites	218	25	—	71	249	1,156	990	2,709
Sedimentation rates	479	109	—	2	—	65	81	736
Sugar tests	50	9	—	4	—	—	—	63
Urea tests	341	19	—	4	—	7	13	384
Van den Bergh	10	4	—	9	1	15	16	55
Wassermann and Meinicke	1,142	324	—	131	171	380	503	2,651
CEREBRO-SPINAL FLUID :—								
Bacteriological	112	17	—	7	—	9	—	145
Biochemical	113	17	—	4	—	9	—	143
Cytological	114	17	—	4	—	9	—	144
Complement deviation	33	—	—	—	—	—	—	33
PATHOLOGICAL SPECIMENS	75	10	—	11	—	26	2	124
POST MORTEMS	6	4	—	2	—	4	3	19
PUS, EXUDATES AND TRANSUDATES :—								
Bacteriological	1,094	61	—	26	30	45	38	1,294
Biochemical	1	—	—	—	—	—	—	1
Cytological	1,010	1	—	5	—	—	15	1,031
Bacillus Ducrey	8	6	—	13	4	19	2	52
Gonococcus	1,073	623	—	118	17	294	1,227	3,352
Spirochaeta	17	6	—	17	3	33	35	111
Leishmania	1	1	—	35	4	31	3	75
RENAL EFFICIENCY TESTS	483	22	—	9	—	7	13	534
SPUTA	607	505	75	155	53	125	374	1,894
SKIN SCRAPINGS AND HAIRS FOR FUNGI	37	33	—	3	13	10	9	105
THROAT AND NOSE SWABS	3,748	767	—	59	149	284	912	5,919
VACCINES, AUTOGENOUS	81	20	—	5	7	5	23	141
MISCELLANEOUS	46	7	—	44	150	262	31	540
ANIMAL EXPERIMENTS	—	—	—	—	—	2	—	2
TOTALS	16,063	7,764	3,449	2,932	2,775	12,848	9,330	55,161
	UNITED KINGDOM.			ABROAD.				

* Includes 4,412 examinations carried out by Chief Chemist's Laboratories in Iraq: Waters 1,722; mineral waters 1,209; ice 217; foods 1,124; oils, petrol, cement 140.

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TABLE XXIV.—DENTAL TREATMENT BY R.A.F. DENTAL OFFICERS, 1937.

	Fillings.	Scalings.	Extractions.	Root fillings.	Dentures.				Number rendered dentally fit.
					Number of dentures supplied.	Number of Personnel fitted with dentures.	Repairs.	Remodels.	
United Kingdom	58,701	9,209	23,479	109	874	620	246	312	10,905
Abroad	4,796	1,620	1,464	2	166	121	115	62	2,767
Privilege treatment rendered to P.M.R.A.F.N.S. and wives and families	2,517	299	3,004	2	48	29	7	5	427
Total	66,014	11,128	27,947	113	1,088	770	368	379	14,099

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CHAPTER V.—HYGIENE

General

83. (i) (*a*) During the year many new stations were opened, and in building these stations the opportunity was taken to remedy the defects which had become apparent in the plans of some of the older types of buildings. Thus, for erection at the School of Technical Training at Cosford, a new type of barrack to accommodate 1,000 was designed. It includes under one roof, dormitories, sitting-rooms, reading and writing rooms, library, lavatories and bathrooms, dining hall with kitchen, and institute and recreation rooms. For general use at stations in the United Kingdom a new type of barrack has also been designed. The principal new features in this type are the division of barrack rooms into small units, the addition of sitting-rooms and the provision of larger kit and drying rooms and a more liberal allowance of ablution facilities. It is hoped by these means to create a more homely atmosphere, and to reserve the dormitories mainly for sleeping or resting. Hot water, which previously was only laid on to baths, has now been supplied to all lavatory basins.

(*b*) The clothing issued to airmen has been reviewed, and light weight cotton pyjamas and underclothing are now provided in place of the woollen articles previously supplied. The change is much appreciated by the men, and the clothing is more easily cleansed and disinfected.

(*c*) For those working with paint remover, thick rubber gauntlets have been supplied as a protection against dermatitis, and the use of ear defenders as a protection against occupational deafness has been made compulsory for crews of armoured motor boats. These crews, working in an enclosed cabin, are exposed to the noise of the very powerful engines.

(*d*) Additions to the dietary of airmen included an ounce of butter and half an ounce of vitaminised margarine to replace the previous allowance of one ounce of ordinary margarine. The standard ration has been increased so as to provide a complete and varied diet, including a generous supper. Aircraft apprentices and boys have been provided with an extra half pint of milk per day.

(*e*) At hospitals abroad, electric refrigerators have been installed for the safe custody of vaccines, sera and certain drugs which would otherwise deteriorate unduly in the heat.

(*f*) For field use, a water sterilising unit, mounted on a trailer, has been constructed. This unit consists of a 4-stroke, air-cooled petrol engine which drives a dynamo and centrifugal pump. As the water is sucked into the pump it is dosed with chloramine

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formed by the interaction of ammonium chloride and sodium hypochlorite derived from dosing chambers under the dosing panel. The sodium hypochlorite is made by the electrolysis of salt solution by means of an electrolytic cell worked off the dynamo. The exact dose of chloramine is regulated by an ammeter. The chloraminated water then passes through a meta-filter for clarification. The apparatus is capable of delivering 500 gallons of purified water per hour.

(*g*) Disinfestation trials were carried out on cockroaches and bed bugs. An infestation of cockroaches in airmen's married quarters at Tangmere was treated with marked success by spraying with "Clymax" gaseous insecticide, the whole house in each instance being treated and floorboards removed here and there to facilitate treatment of the intervening space between floor and ceiling. Bed bug infested barracks at Malta were cleared of this pest after a single treatment with "Cescones", the effect lasting for six months, that is, up to the end of the year under review.

(*h*) A cruise to West Africa, consisting of two aircraft from Cairo and five aircraft from Khartoum, with a total personnel of 9 officers and 26 men, took place between 24th April and 2nd June, 1937. As a safeguard against yellow fever the 35 members of the crew, plus 19 airmen held in reserve, received protective inoculation with serum and virus prior to departure; the inoculation gave little or no immediate reaction, but three to four months afterwards, seven of these individuals, that is, 13 per cent., developed jaundice. Additional precautions were :—pressure spraying of aircraft with pyrocide 20, twice daily, and just prior to departure from any stopping-place; the enforced use of mosquito nets by all members of the flight; and the taking of 5 grains of quinine daily by each member. No medical personnel accompanied the flight.

There was only one case of sickness during the cruise, an airman developing a recurrent attack of malaria; but one officer and 3 airmen developed malignant tertian malaria (primary infection) within 14 days of the termination of the cruise.

(ii) *Investigations.*—(*a*) The conditions of workers using Mesothorium compound, which contains radio-active material, were investigated in conjunction with H.M. Medical Inspector of Factories, at the R.A.F. Equipment Depot, Kidbrooke. As a result, rules for the storage and handling of the compound were laid down as follows :—

Storage.—Mesothorium compound, in doses not exceeding 20 grammes per bottle, must be placed within a metallic lead container an inch thick all round. The stock must be stored in a locked safe situated in a room well away from the operators and accessible only

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to authorised persons. Unnecessary handling of this mesothorium must be avoided, and its distribution to workers must be under careful supervision. Only small quantities must be given out at a time—e.g. enough for an hour's work. All unused material and empty containers must be returned by workers at the end of each working period. A record must be kept of all withdrawals from and additions to stock, noting their purpose and destination.

The luminising room must permit of 400 cubic feet per worker. Ventilation must be provided so as to give 15 changes of air per hour without draught, and to abstract any dust particles or emanations by suitable bench ducts. Floor and benches in this room must have smooth, unbroken surfaces, which must be moist-cleaned daily. The mesothorium compound in use must be kept in lead containers placed on the bench as far from workers as possible. All benches must be kept free of the compound. Pens and styles for its application must be kept on racks so as to avoid contamination of the benches. Discarded material must be properly disposed of by the supervisor. Illumination must provide 10-foot candles without glare at plane of working. Glass plate screens must be interposed between workers and articles being luminised. No food, drink or feeding utensils must be brought into the luminising room.

Workers.—Only careful, healthy persons must be employed. They must wear overalls and headcovering during work in the luminising room; these must be washed or renewed weekly. Hands and fingernails must be thoroughly cleaned and freed from mesothorium compound before eating or drinking or going off duty. All mixing of the compound and hand painting must be done behind protective glass plate screens placed on the bench in front of the worker. Technique must obviate contamination of fingers and mouth. Pens and styles must be wiped clean on the sponges provided. No worker must remain on duty with a raw area within the mouth (i.e. recent tooth extraction). All workers must be medically examined quarterly and have a blood count done once annually. A rest room should be provided for meals; this room must not be entered while wearing luminising overalls or headcovering.

(*b*) Personnel at Ruislip engine shop complained of toxic effects (headache and nausea) while turning over engines. These effects were found to be due to the presence of Butanol in the anti-corrosive inhibitor used. When turning over was done in the open, however, no ill-effects were observed.

(*c*) *Intra-epidermic vaccination.*—A comparison of the scarification and intra-epidermic methods of vaccination was made at the recruits' depots at Uxbridge, Henlow and Cardington, and it was found that the latter method saved time and dressing, and appeared

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less likely to cause severe reaction than the former method. Upon information from the Ministry of Health, however, that the lymph was not bacteria-free and should not be used for intra-epidermic vaccination, this method was abandoned.

(*d*) Vitamin "C" reserve of airmen.—At Peterborough an investigation into the vitamin "C" reserve of 50 airmen was made. Urinary ascorbic acid excretion was measured and response to test doses observed.

The average level of excretion among the airmen was 15·53 mg. per day. The maximum recorded was 24·4 mg., the minimum 8·45 mg.; the latter low level was in a married aircrafthand who lived out of camp. The response to test doses indicated a less satisfactory state than that suggested by the daily excretions. Only two airmen responded to the first test dose, 18 to the second, and 22 to the third, while five failed to respond at all to the three 700 mg. test doses. While those responding to the first and second test doses have evidently a satisfactory vitamin "C" reserve, those in the latter two categories must be considered as having a relative degree of insufficiency. It was notable that both airmen who responded to the first test dose were in the habit of buying fruit regularly; it was also observed that one airman was tested immediately after return from 4 weeks' leave, who failed to respond to three 700 mg. test doses. After one month on the station he was found to respond to the third test dose.

A control group of five officers living in mess was investigated. Here the maximum daily excretion was 55 mg., the minimum 23 mg., and the average 30·54 mg. All, without exception showed a massive response to the first test dose. In this mess, glasses of orange juice were served at breakfast each day, a fact which probably accounts for the high levels of excretion observed.

Thus to summarize—of the 50 airmen tested, 22 showed a minor degree of deficiency, while five showed a rather greater degree. Twenty airmen showed an adequate reserve of vitamin "C", while in three cases the full number of test doses was not given. The five officers tested showed a very high reserve.

(*e*) The investigation into the cause of jaundice occurring among R.A.F. personnel in the United Kingdom, which was started last year, was extended this year to include the Middle East. There were in all 69 cases. In no instance was there any agglutination evidence of leptospiral infection. Seven of the jaundice cases which occurred in the Middle East Command developed three to four months after inoculation against yellow fever with immune serum plus viscerotropic virus; the blood sera of these cases were tested for yellow fever immune bodies at the Wellcome Bureau of Scientific Research, but with negative results in each instance.

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(iii) *Teaching.*—(*a*) At Halton, general instruction in Service hygiene and sanitation was given to medical officers on joining the Service. Medical orderlies under training attended for a month's course in hygiene and camp sanitation. Short courses of instruction were given to aircraft apprentices prior to passing out from Halton, and aircrafthands undergoing training as cooks were given appropriate instruction in hygiene, especially in relation to food supplies and cookhouses. Revision courses of a fortnight's duration were given to Class " E " reservists.

(*b*) At Cranwell, aircraft apprentices were given a course of hygiene and field sanitation.

Stations in the United Kingdom

84. *General.*—In the report for 1936, it was not practicable, owing to the re-organisation of the home commands, to give the incidences of the various diseases in the individual commands. These figures will now be found under the appropriate headings.

85. **Bomber Command.**—(i) *General health.*—The incidence of disease, excluding cases of not more than 48 hours' duration, was 177·3 per 1,000.

(ii) *Communicable disease.*—An epidemic of influenza occurred in the first quarter of the year, the disease being of a mild type. The more important communicable diseases occurring in the command were :—

Disease	*Incidence per 1,000*
Influenza	43·0
Pneumonia	1·0
Tuberculosis	1·0
Venereal disease—	
Gonorrhoea, acute	.. 7·0 } 8·0
Syphilis, primary }	}
,, secondary } ..	.. 1·0 }
Soft chancre }	}

(iii) *Water supply.*—The quality of the water at all stations was good. New stations were supplied by water from bore wells sunk under Air Ministry arrangements, or from local mains.

(iv) *Conservancy.*—Sewage disposal was satisfactory, all new stations being equipped with the standard sewage works.

(v) *Food.*—Only small quantities of food were condemned. Pasteurised milk was supplied at Boscombe Down and Turnhouse, and tuberculin tested milk at Scampton and Usworth, while at the remaining stations raw milk as supplied locally was used.

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(vi) *Buildings.*—New stations of permanent construction were opened at Cranfield, Feltwell, Harwell, Marham, while the stations at Honington and Upwood are still of temporary wooden huts pending the completion of the permanent buildings. At many of the older stations additional barrack blocks, married quarters and extensions to existing messes and institutes have been completed.

Temporary hutted camps.—In spite of a slight reduction in floor-space and bed-spacing, the Eastleigh type of hut proved satisfactory. At more exposed stations an extra stove was provided, to increase the comfort and prevent the spread of respiratory complaints amongst occupants crowded round a single stove.

86. **Coastal Command.**—(i) Fleet Air Arm personnel are not included under this command. Details will be found in para. 33 (Chapter I).

(ii) *General Health.*—The disease incidence, excluding cases of not more than 48 hours' duration, was 282·8 per 1,000. An outbreak of influenza accounts for more than one-fourth of the total sickness incidence.

(iii) *Communicable diseases.*—The more important communicable disease occurring in the command were :—

Disease	*Incidence per 1,000*	
Influenza	78·2	
Pneumonia	1·1	
Scarlet fever	1·1	
Venereal diseases—		
Gonorrhoea, acute	6·5	7·5
Syphilis, primary, ,, secondary, Soft chancre	1·0	7·5

(iv) *Water supply.*—The water supply at all stations remained of good quality throughout the year.

(v) *Conservancy* was satisfactory throughout the command.

(vi) *Food.*—There were no cases of illness attributable to food, nor had any food to be condemned.

(vii) *Buildings.*—A new station of temporary construction was opened at Ford during the year, and various new permanent buildings were erected at Felixstowe and Pembroke Dock. At Calshot the ground floor of an existing building adjacent to the pier was fitted up as a Resuscitation Room where the apparently drowned, and individuals suffering from exposure may receive treatment. The room also allows personnel engaged in manhandling flying boats to rest and warm up between spells of duty.

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87. **Fighter Command.**—(i) *General health.*—The disease incidence, excluding cases of not more than 48 hours' duration, was 268·5.

(ii) *Communicable disease.*—The more important communicable diseases occurring in the command are shown in the table.

Disease	Incidence per 1,000
Influenza	54·2
Pneumonia	2·0
Scarlet fever	0·7
Tuberculosis	0·5
Venereal disease—	
Gonorrhoea, acute	4·4
Syphilis, primary, Syphilis, secondary, Soft chancre	0·2
	4·6

During the typhoid epidemic at Croydon in November and December, T.A.B. innoculation was given to personnel at Biggin Hill and Kenley as a precautionary measure.

(iii) *Water supplies.*—With the exception of Flimston, where some difficulty was experienced in obtaining a suitable supply, the water has been satisfactory.

(iv) *Conservancy.*—Analyses of sewage effluent from stations served by standard sewage works were satisfactory except at Catterick.

(v) *Scavenging* was mainly by contract and was generally satisfactorily carried out.

(vi) *Food.*—Only small quantities of food had to be condemned, and there were no cases of food poisoning.

(vii) *Buildings.*—New stations were completed at Debden, Church Fenton, Odiham, Dyce and Cardiff and additions were made to the existing stations at Duxford, Tangmere and Catterick.

88. **Training Command.**—(i) *General Health.*—The incidence of disease, excluding cases of not more than 48 hours duration was 402·0 per 1,000. Apart from an outbreak of influenza which occurred in the first quarter of the year, the general health was satisfactory. The personnel at Uxbridge consists largely of recruits and at Halton and Cranwell of aircraft apprentices.

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(ii) *Communicable disease.*—The principal diseases occurring in the command are shown in the Table.

Disease			Incidence per 1,000
Cerebro-spinal meningitis			0·2
Chickenpox			1·4
Diphtheria			0·6
Influenza			107·4
Measles			4·2
Mumps			12·6
Pneumonia			1·9
Scarlet fever			3·6
Tuberculosis			1·1
Venereal disease—			
Gonorrhoea, acute		4·0	4·5
Syphilis, primary			
,, secondary		0·5	
Soft chancre			

Immunisation against scarlet fever and diphtheria was again successful in keeping down the incidence of these diseases.

(iii) *Water supply.*—The standard of purity has been well maintained, chlorination having been necessary only in a few cases, and there were no diseases traceable directly or indirectly to water.

(iv) *Conservancy.*—Sewage disposal was satisfactory except at Cranwell and Sutton Bridge, where existing plants were unable to cope with the increase in personnel.

The removal of refuse was undertaken mainly by contractors, and has given rise to no trouble.

(v) *Food.*—No food had to be condemned, nor were there any cases of food poisoning. Fresh milk was made a free issue to aircraft apprentices, and a growing demand for milk amongst airmen has been noticed.

(vi) *Buildings.*—New permanent buildings were completed at the following stations :—

Brize Norton	Eight airmen's married quarters.
Cranwell	Five officers' married quarters.
Halton	Barracks, Institute, Sergeants' Mess in Paine barracks, Administration Wing barracks, and extensions to the hospital and bakery.
Henlow	Church, gymnasium and disinfector block.
Hullavington	A new station of permanent buildings.
Leuchars	Four airmen's married quarters.
South Cerney	Three blocks of airmen's married quarters.
Ternhill	Station Sick Quarters and 14 airmen's married quarters.

In addition to the permanent buildings, temporary wooden hutments were erected at a large number of stations.

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Stations Abroad

89. **Aden Command.**—(i) *General Health.*—The incidence of disease was 432·1 per 1,000.

(ii) *Communicable disease.*—The incidences per 1,000 of the more prevalent diseases were :—

Disease		Incidence per 1,000
Dengue		52·0
Dysentery, bacillary		9·0
Enteritis, acute		33·9
Malaria, primary		6·8
Venereal disease—		
Gonorrhoea, acute	13·5	27·1
Syphilis, primary	—	
,, secondary	—	
Soft chancre	13·5	
Jaundice		9·0

The practice of routine treatment of the ears after bathing, introduced in 1936, has been continued with a consequent low incidence of infections of the external auditory meatus. The cases of malaria which were of the malignant tertian type, were infected while on detachment in the Aden hinterland. Venereal disease has decreased from 32 per 1,000 in 1936 to 27·1 per 1,000.

(iii) *Water supply.*—The drinking water was satisfactory throughout the year, *B. Coli* for the most part having been absent in 100 cc.

(iv) *Conservancy.*—A preliminary survey for the installation of a water-borne sewage system was begun.

(v) *Food.*—Supplies were satisfactory with the exception of milk, samples of which showed a high *B. Coli* content. The quality of the milk sold was poor as there is a heavy demand for cream. This results in the separated milk being returned to stock and sold for consumption.

(vi) *Buildings.*—At Khormaksar, work has been resumed on the swimming bath, and a covered playground for children completed. Improvements have also been made to the garrison school.

(vii) *Medical assistance to local tribesmen.*—During the year a medical officer was flown to various parts of the Protectorate to render assistance to tribesmen wounded in inter-tribal affrays. The difficulties met with were considerable, but in spite of this, several cases were successfully operated on.

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90. **Far East.**—(i) *General Health.*—The incidence of disease excluding cases of not more than 48 hours' duration, was 461·0 per 1,000.

(ii) *Communicable diseases.*—The incidences per 1,000 of the more important communicable diseases is given below.

Disease		Incidence per 1,000
Dengue		40·5
Malaria, primary		4·1
Malaria, recurrent		3·0
Tuberculosis (all forms)		3·0
Veneral disease—		
Gonorrhoea acute	37·5	62·8
Syphilis, primary	2·0	
,, secondary	—	
Soft chancre	23·3	

Malaria.—Intensive anti-malaria work has been carried out during the year, and as a result the number of mosquitoes greatly diminished and no case of primary malaria occurred.

Anopheles mosquitoes dissected at Kai-Tak and Pathesing showed an infection with filaria larvae in about 0·25 per cent. of those examined. Anopheles spendidus was found to be the most heavily infected.

Venereal Disease.—The incidence of venereal disease shows a slight decrease from 1936, being 62·8 per 1,000 as opposed to 65·0 per 1,000. The high incidence of soft chancre in the Far East, in comparison with other commands is particularly noticeable, at 23·3 per 1,000 as against 13·5 per 1,000 in Aden and 6·6 per 1,000 for the Middle East.

Ankylostomiasis.—One case is reported, which was discovered on routine examination of an airman. The source of infection, however, was not discovered.

(iii) *Food.*—Supplies were satisfactory and none had to be condemned during the year.

(iv) *Water supplies.*—The supply at all stations was satisfactory during the year.

(v) *Buildings.*—New buildings completed during the year comprised officers' and airman pilots' quarters, sergeants' mess, and accommodation for cookhouse, dining room and N.A.A.F. Institute.

91. **India.**—*General Health.*—The incidence of disease, excluding cases of not more than 48 hours' duration was 336·9 per 1,000.

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Communicable Disease.—The more important communicable diseases occurring in the Command were :—

Disease.		*Incidence per 1,000.*
Dysentery		10·1
Enteritis		20·7
Jaundice		11·1
Malaria, primary		30·4
,, recurrent		5·3
Phlebotomus fever		38·1
Venereal diseases—		
Gonorrhoea, acute	6·3	10·1
Syphilis, primary ..	0·9	
,, secondary ..		
Soft chancre	2·9	

Dysentery.—The highest incidence of dysentery occurred in the period March–May when flies were most numerous. The cases were mostly of the bacillary type.

Jaundice.—In no case was leptospiral infection demonstrated.

Malaria, primary.—The incidence of primary malaria has increased from 21·2 per 1,000 in 1936 to 30·4 per 1,000, Karachi and Peshawar having had the largest number of cases. At Karachi the rainfall was much above normal, with consequent difficulties in controlling breeding places. In Waziristan, a trial was made of the mosquito repellant "Dover's Cream", which proved very successful, and it is proposed to issue this preparation in future in lieu of P.C. oil.

Phlebotomus fever.—The figure 38·8 per 1,000 for 1937 shows an increase of 5 per 1,000 from 1936. The cases occurred chiefly at stations in the North-West Frontier Province.

Venereal disease.—The incidence of acute gonorrhoea at 6·3 per 1,000 remains almost unchanged from 1936. Other venereal diseases form but a small part of the total incidence.

Skin infections.—Army experiments, which included personnel of No. 20 (A.C.) Squadron, Peshawar, were carried out to ascertain whether skin infections were lessened, by an increase in the salt ration, to replace the chloride deficiency caused by excessive sweating. It was found that the incidence of boils and prickly heat was diminished, and the troops themselves appreciated the extra issue of salt.

Heat effects.—Of the 5 cases of effects of heat at Ambala, due to prolonged exposure to high temperature both day and night, only 1 was severe, and was subsequently invalided. No case had contributory predisposing factors.

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Water supplies were satisfactory.

Conservancy.—All latrines are now completely flyproofed ; new cemented and flyproofed Indian latrines were erected at Karachi and Lahore. Drainage at Drigh Road was badly laid and caused stagnant water to collect ; to remedy this a semi-automatic method of treating sullage water is being introduced. At present all bath houses at Ambala, Risalpur, Peshawar and Kohat are constructed of corrugated iron.

Food was good but lacking in variety, i.e. mutton was issued only once a week, and fresh greens, usually cabbage and spinach, were scarce. Milk was pasteurised ; butter was supplied fresh daily. At Risalpur a vegetable garden was started, irrigated by water from the Dhobi Ghat. There were no cases of food poisoning.

Operations in Waziristan.—Medical examination showed no appreciable lowering in physical efficiency among pilots or air-gunners, in spite of high temperatures and long flying hours. At Manzai, where the heat was intense, and working hours long, many airmen suffered from heat effects. Extensive use was made of air transport for evacuation of casualties, and details will be found in Chapter IV, para. 79.

Building.—At the Hill Depot, Lower Topa, the old technical training room was converted into a barrack room, thus relieving the overcrowding of 1936.

At Chaklala, No. 5 Squadron, and at Karachi, No. 31 (A.C.) Squadron, were still under canvas. At the former station, however, tent floors were bricked and low brick walls built round the perimeter of each plinth in order to prevent draughts and damp.

At Miranshah, there was one well-built stone bungalow and one older brick and mud structure. During the Waziristan operations extra personnel were housed in E.P.I.P. double-roofed tents, provided with fans.

At Fort Sandeman, two new mosquito-proofed barracks were completed.

92. **Iraq Command.**—(i) *Climatology.*—The average maximum and minimum temperatures were somewhat higher than those of the past 10 years, and from mid-July to mid-August the maximum temperature remained in the region of 112° to 115° Fahrenheit, with minimum temperature of 80° Fahrenheit or slightly over. It is hoped that the difficulties in dealing with heat cases will be ameliorated by the provision of air conditioning in the new hospital at Habbaniya. River floods were higher and the Tigris overflowed its banks 10 miles north of Baghdad, the flood water reaching to the western and northern bunds of the cantonment, where it lay until the end of July.

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(ii) *General Health.*—The incidence of disease, excluding cases of not more than 48 hours' duration, was 598·4 per 1,000, and apart from an increase in the number of cases of phlebotomus fever there was no epidemic.

(iii) *Communicable disease.*—The incidences of the more prevalent communicable diseases were :—

Disease.			*Incidence per 1,000.*
Dysentery (primary)			3·6
Enteritis			54·8
Jaundice..			5·8
Malaria (primary)			46·7
Phlebotomus fever			126·0
Tonsillitis			37·4
Tuberculosis			1·8
Venereal disease :—			
Gonorrhoea, acute	9·4		
Syphilis, primary			
,, secondary ..	5·3		14·7
Soft chancre ..			

Malaria.—As a result of abnormal spring floods, control of mosquito breeding-places was made very difficult. For the first time Anopheles pulcherrimus was found in the cantonment area. As might be expected the incidence of primary malaria was higher in 1937,—46·7 per 1,000, as compared with 36 per 1,000 in the previous year. At Shaibah, normally malaria free, cases were reported, but it is difficult to exclude infection earlier at Basrah, or the possibility of wind-borne mosquitoes reaching the camp from the Hanmer Lakes, 7 miles distant from the station, though proof of this is lacking. The few cases occurring at the new station at Habbaniya were thought to have been infected at Hinaidi. The incidence of phlebotomus fever has increased from 52·0 per 1,000 in 1936 to 126·0 per 1,000 in 1937 in spite of protective measures such as sandfly nets, insecticides and the hygiene of the surroundings of barracks. At Habbaniya, the miles of trenches, piles of building material and the dampness associated with constructional work provided ideal breeding places for the insects.

Jaundice.—Leptospiral infection was excluded in all cases.

Venereal Disease.—The incidence of venereal disease has remained practically unchanged—14·7 per 1,000 as against 15 per 1,000 in 1936.

All native personnel engaged in the handling of food were examined, and of 1,534 natives 145 were discharged or refused employment as being carriers of pathogenic bacteria, protozoa or helminths.

(iv) *Water supplies* continued to be satisfactory.

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(v) *Conservancy*.—At Habbaniya the new water-borne sewage system was completed, while at Shaibah the construction of a water-borne system is under way.

(vi) *Food*.—Locally grown vegetables and fruit were obtainable throughout the year at most stations. The local meat is of poor quality and climatic conditions make it imperative to consume it before it is sufficiently hung. It is hoped to improve the palatibility of the meat by means of the refrigerating plant which has recently been installed. The local butter is also of inferior quality and has been widely supplemented by New Zealand produce. One case of food poisoning occurred, which was traced to fish eaten in a local restaurant.

(vii) *Buildings*.—The move from Baghdad to the new station at Habbaniya was completed during the year.

A new lighter type of living quarter, centrally heated in winter, and having double air spaces above the ceiling and ventilated verandah roofs, has replaced the more massive buildings formerly in use. This new type of construction allows of free circulation of air by day and the escape of the heat after sunset. New works completed were, the R.A.F. General Hospital, the Air Defence Force Hospital, water treatment plant for domestic supply, water-borne sewage disposal plant, and ice-making and refrigerating plant. All cooking apparatus installed is electrically operated. Recreation has been well catered for by the provision of an airmen's club, and officers' and airmen's swimming baths with purification plants, in addition to the usual facilities for all types of sports. At Shaibah the officers' and sergeants' quarters have been reconditioned and a new lecture hall and gymnasium-cum-cinema has been provided.

(viii) The *bacteriological standard* of the water in all swimming baths has remained uniformly good.

93. **Malta.**—(i) The year has been uneventful from the hygiene point of view ; there have been no epidemics of importance, and the general health has been good. The incidence of disease, excluding cases of not more than 48 hours' duration, was 391·0 per 1,000. Fleet Air Arm personnel are not included.

(ii) *Communicable diseases*.—The more important communicable diseases occurring amongst the personnel were :—

Disease.			*Incidence per 1,000.*
Jaundice, catarrhal			10·0
Phlebotomus fever			15·0
Tonsillitis			23·3
Venereal disease—			
Gonorrhoea, acute	20·0		
Syphilis, primary	1·6	26·6	
,, secondary			
Soft chancre	5·0		

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Jaundice.—In the autumn there occurred a number of cases amongst the Service personnel and civil population. Similar outbreaks have occurred in previous years, and, in the absence of leptospiral infection, have been diagnosed as infected catarrhal jaundice. Its occurrence in epidemic form points to the need for further investigation into the true nature of the disease.

Plague.—Cases of bubonic plague, as noted in last year's report, continued to arise amongst the civil population, but no Service personnel were attacked and no civil cases have occurred since May 1937. Energetic measures were taken by the civil authorities in destruction of rats and refuse dumps. Approximately 1,000 rats have been examined each month, but none found infected since May. In that month four infected rats were found in a village near the R.A.F. station at Hal Far. Precautionary measures were taken and no cases occurred.

Venereal disease.—The large increase in venereal disease, from 7·0 per 1,000 in 1936 to 26·6 per 1,000, is due to the fact that numbers of personnel were temporarily based on Malta, and were probably infected at North African ports. The actual ratio for personnel stationed in Malta was 9·9 per 1,000.

(iii) Bugs have been troublesome in barrack blocks, and though spraying, flaming and washing of the frame-work of beds have prevented undue annoyance from these pests, such measures do not completely erradicate the bugs, and involve a great deal of labour. A proprietary preparation was given a trial with very satisfactory results, both bugs and eggs being destroyed. The barrack blocks have remained free from infestation after one treatment. Unfortunately the cost of the preparation is high, but against this must be balanced the effective results, the saving in labour, and the gain in comfort for personnel.

(iv) *Water supply.*—Water supplies are obtained from civilian sources by pipe line and chlorinated at stations, and have proved adequate.

(v) *Food.*—The quality of the rations supplied has been good, and only small quantities have had to be condemned. At present only tinned milk is used, though the civil authorities are again considering a scheme whereby the street milking of goats will be prohibited and the goats taken to a central depôt where the milk can be pasteurised. It will be interesting to watch the effect of this experiment on the incidence of undulant fever amongst the civil population.

(vi) *Buildings.*—Alterations and additions have been made to various existing buildings ; at Kalafrana further flyproofing has been carried out in the cookhouse, and a decontamination store erected.

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At Hal Far, kit stores have been added to each barrack block ; alterations have been undertaken to provide more accommodation in the sergeants' mess, a new officers' married quarter has been completed and other small improvements made to various existing buildings including the provision of a dish-washing machine for the airmen's cookhouse.

94. **Middle East Command.**—(i) *Climatology.*—In Egypt there were several minor heat waves in April and excessive humidity in August and September. In mid. December there was a warm spell with record high temperature. In Nairobi there was a rainfall of 53·23 inches, which was 54 per cent. above the average. In spite of this, however, rainfall for 7 months of the year was below average. Palestine and Transjordan had no unusual weather conditions.

(ii) *General health.*—The disease incidence for the Middle East Command, excluding cases of not more than 48 hours' duration was 398·1.

(iii) *Communicable disease.*—Incidence for the commoner communicable diseases were :—

Disease			*Incidence per 1,000*
Dengue			7·2
Dysentery			3·6
*Jaundice (catarrhal)			7·2
Malaria, primary			20·8
,, recurrent			9·3
Tuberculosis			0·9
Venereal diseases—			
Gonorrhoea, acute	10·0		
Syphilis, primary	1·8	18·4	
,, secondary			
Soft chancre	6·6		

* Seven cases of jaundice developed 3 or 4 months after inoculation in personnel who had been inoculated against yellow fever.

Malaria.—The incidence of 20·8 per 1,000 showed a reduction from 1936, when it was 26·0 per 1,000. The stations which suffered most were Nairobi, Khartoum, Helouan, and Abu Sueir.

Typhus.—There were 2 mild cases of tick-borne typhus during the year, one occurring in Nairobi and the other in Palestine.

Dengue.—There was an epidemic of dengue in the Cairo district during October and November, affecting the civil population in considerable numbers, a few cases also occurring among R.A.F. personnel. The year was particularly favourable to the breeding of the Aëdes Aegypti, owing to the number of breeding places left by

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the abating Nile floods and the torrential rains in October. These factors, together with ideal climatic conditions and a population enjoying little or no immunity owing to the length of time that elapsed since the last visitation in 1928, paved the way for a major epidemic.

Jaundice.—The incidence of jaundice in the Middle East Command still remains high, 7·2 per 1,000 as compared with that of the home establishment (0·7 per 1,000). The blood sera of all cases which suffered from jaundice during the year were tested for agglutinins against leptospira icterohaemorrhagiae, but with a negative result in every instance. Of the 54 R.A.F. personnel inoculated against yellow fever by the use of immune serum plus attenuated viscerotropic virus, seven cases (i.e. 13 per cent.) developed jaundice three or four months after inoculation ; whereas there were no cases of jaundice among the R.A.F. personnel who were not given this inoculation. The blood sera of the jaundice cases which followed yellow fever inoculation were tested for yellow fever immune bodies, but with negative results in each instance.

Venereal diseases.—The incidence remained practically the same as in the preceding two years.

Plague.—Following an outbreak of plague among the native population at Kenya, all R.A.F. personnel were inoculated with anti-plague vaccine, and all remained free from this disease.

(iv) *Frost bite.*—One case of frost bite occurred on the night of 31st December, 1936—1st January, 1937. The patient was an N.C.O. in the Armoured Car Section on reconnaissance duty on the Ziza plain, Transjordan. While sleeping for the night in a bivouac tent, both feet were affected. No other individuals of the party were affected in the slightest degree.

(v) *Water supplies.*—These were satisfactory, except at Spinney Wood, Ismailia, where the installation of a metafilter was considered necessary ; while at Aboukir and Abu Sueir, owing to the local prevalence of Bullinus, wire screens were erected between the pumping station and the sedimentation tanks, and the chlorine dosage was increased to three parts per million as a precaution against schistosomiasis.

(vi) *Conservancy.*—Conditions remain as in 1936. No extra water-borne systems were installed.

(vii) *Food.*—There were two outbreaks of food poisoning, one at Ramleh among airmen who had eaten rissoles for breakfast, the other at Khartoum, thought to be due to the meat and vegetable ration.

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(viii) *Building.*—Heliopolis.—One two-storeyed barrack block was completed and a dining-room was added to the sergeants' mess, where previously one room had served as dining and sitting-room.

Abu Sueir.—A water purification plant house was completed, and extensions to the sergeants' mess were made. An infants' classroom was added to the Children's School.

Khartoum.—One new barrack block was provided and sergeants' single quarters were completed. Extensive alterations were made to the officers' mess kitchen.

Nairobi.—Three barrack blocks with airmen's bath houses and latrines, N.A.A.F.I., airmen's dining-room and cookhouse, medical inspection block, sergeants' mess, various technical buildings and one hangar, were completed.

Jerusalem.—Married warrant officers' and airmen's quarters were completed.

Ramleh and Sarafand.—At these stations new disinfector stations were built and tennis courts constructed. At Ramleh the airmen's kitchen is undergoing extensive alterations.

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